NTPEP Report 8001.39

AASHTO's National Transportation Product Evaluation Program

LABORATORY RESULTS OF EVALUATIONS ON GEOTEXTILES (APRIL 2006 TO 2010 SECOND CYCLE)

AASHTO THE VOICE OF TRANSPORTATION

April 2010

National Transportation Product Evaluation Program

LABORATORY RESULTS OF EVALUATIONS ON GEOTEXTILES

American Association of State Highway and Transportation Officials (AASHTO)

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PROLOGUE

General Facts about NTPEP Reports,

- NTPEP Reports contain data collected according to laboratory testing and field evaluation protocols developed through consensus-based decision by the AASHTO's NTPEP Committee. These test and evaluation protocols are described in the *Project Work Plan* found in the Appendix of this Report.

- Products are voluntarily submitted by manufacturers for testing by NTPEP. Testing fees are assessed from manufacturers to reimburse AASHTO member departments for conducting testing and to report results. AASHTO member departments provide a voluntary yearly contribution to support the administrative functions of NTPEP.

- AASHTO/NTPEP does not endorse any manufacturer's product over another. Use of certain proprietary products as "test control specimens" does not constitute endorsement of those products.

- AASHTO/NTPEP does not issue product approval or disapproval; rather, test data is furnished for the User to make judgment for product prequalification or approval for their transportation agency.

Guidelines for Proper Use of NTPEP Results,

- The User is urged to carefully read any introductory notes at the beginning of this Report. Also, to consider any special clauses, footnotes or conditions which may apply to any test reported herein. Any of these notes may be relevant to the proper use of NTPEP test data.

- The User of this Report must be sufficiently familiar with the product performance requirements and/or (standard) specification of their agency in order to determine which test data is relevant to meeting those qualifying factors.

- NTPEP test data is intended to be predictive of actual product performance. Where a transportation agency has successful historical experience with a given product it is suggested to factor that precedence in granting or withholding product approval or prequalification.

NTPEP Report Special Advisory for Geotextiles (GTX),

- Products included in this edition of **NTPEP Report 8001** are required to resubmit to NTPEP every three (3) years for qualification. Hence, all products included in this Report supercede previous Editions of **NTPEP Report 8001**.

- The User is guided to read the Minimum Average Roll Values (MARV) Advisory provided in the introductory text of this Report.

- For specific questions regarding this NTPEP Report or for advice on how to implement NTPEP data furnished in this Report the User is encouraged to contact the NTPEP Manager at (202) 624-7830 for a listing of NTPEP Lead States.

***Tony Allen* (Washington State DOT)**
Chairman, Geotextiles Technical Committee

***Jim Curtis* (New York State DOT)**
Vice Chairman, Geotextiles Technical Committee

2010 NTPEP Report Series

(APRIL 2006 TO 2010 SECOND CYCLE)

Laboratory Evaluation by:

New York State DOT and TRI

Report Review by:

New York State Department of Transportation

American Association of State Highway and Transportation Officials (AASHTO)

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INTRODUCTION

The purpose of the American Association of State Highway and Transportation Officials (AASHTO) National Transportation Product Evaluation Program (NTPEP) is to provide an efficient, cost effective way of evaluating products that are used by member transportation departments in the construction of transportation facilities.

Manufacturers/suppliers wishing to have their products considered for use on transportation projects submit their materials to a lead State agency, which coordinates a testing program by one or more testing facilities. A report is generated showing the results of the testing, and is distributed to member departments for their use in determining the applicability of the products for use in their State.

GEOTEXTILE PROGRAM

For the geotextile program, New York State Department of Transportation acts as the lead State. After conducting a national survey, the AASHTO/NTPEP Geotextile Panel selected the following tests for inclusion in the program:

Test	ASTM Designation
Permittivity	D4491
Apparent Opening Size	D4751
Grab Strength/Elongation	D4632
Mass/Unit Area	D5261
Puncture Resistance Static Puncture – 50mm Probe	D4833[1] D6241[2]
Trapezoid Tear Strength	D4833
UV Stability	D4355[3]

[1] Test Cycle 05-09 and all preceding cycles.
[2] Test Cycle 06-01 and all subsequent cycles.
[3] Test Cycle 09-01 and all subsequent cycles.

Once an application for testing has been received and approved by the NTPEP Manager, each material is assigned an NTPEP GTX number. The lead State makes arrangements to have the material sampled, the material is sent to the lead State for preparation and distribution to the other test centers (when applicable), the testing is completed, the results are summarized by the lead State and forwarded to the NTPEP Manager.

Sampling is monitored by a DoT representative from the State where the manufacturer/supplier is located, or by an NTPEP-approved independent monitor if the manufacturer/supplier is located outside of the U.S. Sampling consists of obtaining five samples, each three feet long by roll width, taken from a single representative roll of each style designation to be tested. The lead State agency laboratory prepares one set of specimens for each test, from three of the five samples. The number of specimens is based on the requirements of the individual test procedure. The remaining two samples are stored for use in the event a manufacturer appeals the initial test results.

Each manufacturer/supplier receives a Draft Final Report for review. If a manufacturer/supplier appeals the results, the original testing laboratory will be provided another set of specimens, from the fourth sample, on which to perform a second round of testing. If the test results from the second round are questioned, one of the other test centers (if applicable) will be asked to perform tests on specimens from the fifth sample.

The lead State keeps on file the results of the testing for the individual specimens. The Report contains the average of these results.

When a firm sells their products under a private label agreement with another manufacturer, the private label firm submits an application to NTPEP identifying the original product designation, their designation and a letter of certification from the primary manufacturer verifying the information. A Report is issued under the private label firms name and material designations. The results that are reported are those which were obtained on the materials as submitted by the primary manufacturer.

NTPEP GTX code explanation for products tested prior to 2010, the GTX code is a follows: The NTPEP Manager assigns sample numbers (GTX YY-MM-xx) to products as applications are approved for a testing cycle. The explanation of numbering is as follows: "GTX" refers to the geotextile products evaluation program; "YY" refers to the last two digits of the calendar year (eg YY = 08, 09, 10, etc); "MM" refers to the submission month of the program ("01" = January, "04" = April, etc.); "xx" represents sequential sample numbers which are assigned to samples listed on the application. In the tables, missing sequential numbers may indicate the testing of a particular material is incomplete, or the manufacturer withdrew the material from the program prior to testing. The results for the incomplete testing will be included in the report edition following completion of the testing. Starting in 2010, the GTX code is the following (Year(YYYY)-Testing Cycle (XX)-Sample Number(xxx)). For example, 2010-02-023 represents a product that was twenty-third product tested in the second cycle of 2010.

Each Final Report issued for a testing cycle will include all results from previous submissions so that all the information obtained during the three year test cycle will be in one report, and easily accessible. Also contained in the report will be the product Drop Date (month and year). This month and year indicates when the product data will no longer be reported in NTPEP reports

NOTE: 36th Edition is the first Edition to include the Drop Date. Manufacturers with products that expired in May of 2009 have been reported in this edition. All future addition will include current products as per the publish date and the three year cycle.

ADVISORIES

Since a private label company must identify their geotextile supplier in the AASHTO/NTPEP submission process, this source must not change throughout the three-year reporting period without written notification to AASHTO, thirty days prior to delivery of geotextiles from the new supplier. If written notification is not provided, the State should notify AASHTO and the product will be removed from the report immediately.

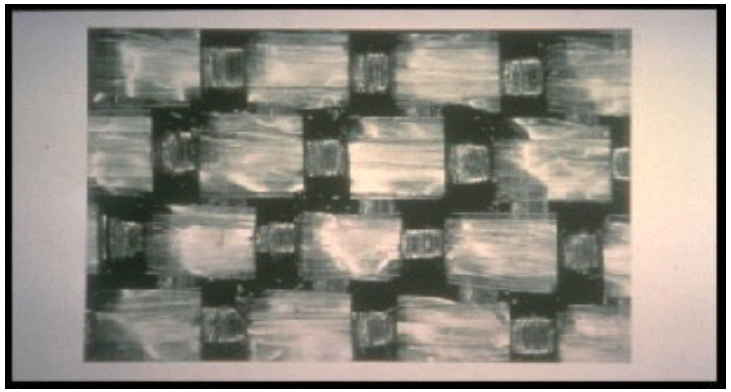
The data shown in this report are averages of test results of specimens taken from laboratory samples of each product designation submitted. These results should not be considered minimum, minimum average roll values (MARV), or typical values, nor should they be used as the sole criterion for material acceptance. It is strongly suggested that a project quality assurance program be established by agencies using the product information in this report.

MARV values found in the report are as provided by the manufacturer in their submission. The product NTPEP test results summarized in the table (mean, COV) only represent the sample tested and do not represent the property statistics for the product in general. The test results summarized in the table only demonstrate whether or not the properties of the sample tested meet or exceed the MARV's provided by the manufacturer as representative of their product. Therefore, the NTPEP test results and associated statistics summarized in the table should not be used to estimate a MARV for the product or be considered characteristic of the product properties.

MISCELLANEOUS INFORMATION - The following pictures are of various manufactured structures of geotextiles.

Micrograph of a Needle-Punched Non-Woven Geotextile

Micrograph of a Slit-film Woven Geotextile



Micrograph of a Monofilament Woven Geotextile w/ Fibrillated Yarn

Manufacturer: **American Engineering Fabrics**

Contact Info: Mr. Charles Weinstein
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New Bedford, MA 02746
Phone: Fax: Email:

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	AEF 480 HS	NP-NW	07-04-23	Mean	75	164	78	167	41	44	NA	152	3.07	0.19	5.2		
				COV (%)	20.0%		0.6%		36.6%	25.0%		20.4%	13.4%	5.3%	11.5%		
				MARV													
Oct-10	AEF 680 HS	NP-NW	07-04-24	Mean	84	166	122	141	55	71	NA	212	2.66	0.14	7		
				COV (%)	15.5%		15.6%		21.8%	12.7%		12.7%	16.9%	7.1%	5.7%		
				MARV													
Oct-10	AEF 880 HS	NP-NW	07-04-25	Mean	133	148	166	128	79	101	NA	321	2.3	0.13	8.8		
				COV (%)	6.0%		9.0%		17.7%	10.9%		15.9%	20.0%	15.4%	10.2%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Assurene Corporation**
Contact Info: Larry Hale
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Smyrna, GA 30082
Phone:(770) 335-4127 Fax: Email: larryh@aassurene.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jan-13	ASR-8100	Cir-W	09-04-07	Mean	124	24	146	22	71	64	NA	423	0.22	0.33	3.0	94	90
				COV (%)	10.7%	NA	6.9%	NA	19.9%	7.8%	NA	4.1%	18.4%	12.2%	2.0%		
				MARV	124	NA	124	NA	65	65	NA	NA	0.05	0.60	NA	80%	80%
Jan-13	ASR-8200	SF-W	09-04-08	Mean	244	24	196	18	101	88	NA	764	0.16	0.29	4.3	Not Tested	Not Tested
				COV (%)	3.8%	NA	4.2%	NA	14.6%	5.3%	NA	5.3%	23.8%	20.6%	1.6%		
				MARV	200	NA	200	NA	75	75	NA	725	0.1	0.425	NA	80%	80%
Jan-13	ASR-8300	SF-W	09-04-09	Mean	376	28	370	22	167	126	NA	1329	0.13	0.33	7.2	Not Tested	Not Tested
				COV (%)	7.8%	NA	4.3%	NA	5.4%	7.2%	NA	3.1%	10.0%	9.1%	1.1%		
				MARV	315	NA	315	NA	120	120	NA	1100	0.05	0.425	NA	80%	80%
Jan-13	ASR-8080	Cir-W	09-10-01	Mean	124	38	140	35	45	48	NA	263	0.10	0.32	2.1	57	75
				COV (%)	5.2%	NA	2.2%	NA	10.1%	9.0%	NA	4.9%	26.1%	9.4%	2.3%	NA	NA
				MARV	100	NA	100	NA	50	50	NA	350	0.10	0.85	2.2	80	80

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **BBA Fiberweb**

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Old Hickory, TN 37138
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	TYPAR 3341G	HB-NW	07-09-01	Mean	130	88	141	78	48	59	NA	249	1.6	0.28	3.5		
				COV (%)	11.5%		7.8%		14.6%	25.4%		8.0%	8.8%	0.0%	4.6%		
				MARV													
Jul-11	TYPAR 3401G	HB-NW	07-09-02	Mean	153	101	169	92	79	76	NA	262	1.42	0.21	3.9		
				COV (%)	11.1%		6.5%		20.3%	15.8%		10.7%	3.5%	0.0%	3.6%		
				MARV													
Jul-11	TYPAR 3501G	HB-NW	07-09-03	Mean	179	101	229	76	103	118	NA	351	0.71	0.15	4.8		
				COV (%)	14.5%		5.2%		9.7%	12.7%		10.5%	15.5%	6.7%	6.0%		
				MARV													
Jul-11	TYPAR 3601G	HB-NW	07-09-04	Mean	292	90	252	81	124	127	NA	437	0.25	0.08	6		
				COV (%)	11.3%		12.3%		7.3%	13.4%		8.9%	20.0%	12.5%	4.7%		
				MARV													
Jul-11	TYPAR 3631G	HB-NW	07-09-05	Mean	307	86	285	78	109	137	NA	517	0.23	0.07	6		
				COV (%)	7.8%		16.1%		17.4%	14.6%		7.0%	8.7%	0.0%	3.7%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Belton Industries**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	BELTECH 2x2	SF-W	07-06-08	Mean	381	33	318	20	179	137	NA	1205	0.46	0.42	7.3		
				COV (%)	3.9%		2.5%		5.6%	5.1%		4.8%	15.2%	1.0%	0.7%		
				MARV													
Sep-11	BELTECH 4x4	SF-W	08-01-34	Mean	715	32	581	21	331	258	NA	1690	0.39	0.39	12.9		
				COV (%)	3.8%		4.3%		13.9%	8.9%		7.2%	7.7%	2.6%	0.2%		
				MARV													
Jun-12	1980	SF-W	09-04-03	Mean	235	28	200	17	108	102	NA	892	0.35	0.41	4.7	Not Tested	Not Tested
				COV (%)	3.4%		4.0%		3.7%	10.8%	NA	2.9%	8.6%	4.9%	4.9%		
				MARV											4	70	70
Jun-12	1475	SF-W	09-04-04	Mean	268	28	274	22	113	115	NA	1073	0.35	0.52	5.5	Not Tested	Not Tested
				COV (%)	4.9%		7.3%		8.0%	3.5%	NA	3.0%	5.7%	9.6%	0.5%		
				MARV	250		250		90	90			0.05	0.6	4.9	70	70
Jun-12	977	SF-W	09-04-05	Mean	335	29	326	22	153	123	NA	1318	0.15	0.33	6.5	Not Tested	Not Tested
				COV (%)	4.5%		4.6%		6.5%	5.7%	NA		13.3%	12.1%	0.8%		
				MARV	315		315		120	115			0.05	0.5	6	70	70
Jun-12	940	SF-W	09-04-06	Mean	146	33	107	20	78	60	NA	474	0.19	0.4	2.9	85	98
				COV (%)	3.4%		6.5%		14.1%	13.3%	NA	5.3%	10.5%	2.5%	0.7%		
				MARV	125		101		55	55			0.05	0.6	2.75	70	70
Jan-13	BELTECH 1935	SF-W	09-10-02	Mean	139	24	118	16	77	64	NA	545	0.48	0.42	3.5	85	89
				COV (%)	10.3%	NA	14.7%	NA	11.3%	7.5%	NA	6.0%	25.2%	24.0%	1.7%	NA	NA
				MARV	125	NA	115	NA	70 (ave)	70 (ave)	NA	NA	NA	0.6	NA	70	70
Apr-13	BELTECH 884	SF-W	2010-01-005	Mean	558	38	597	32	219	228	NA	1920	0.21	0.41	8.9	Not Tested	Not Tested
				COV (%)	3.5%	NA	3.5%	NA	5.4%	6.0%	NA	2.5%	8.9%	2.5%	0.4%	NA	NA
				MARV	490	NA	530	NA	170	200	NA	NA	0.05	0.5	9.0	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Carthage Mills, Inc**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	FX-35HS	NP-NW	07-01-32	Mean	102	62	135	69	66	88	NA	354	3.19	0.25	3.6		
				COV (%)	14.7%		10.4%		10.6%	13.6%		10.2%	13.2%	4.0%	8.9%		
				MARV													
Oct-10	FX-105HS	NP-NW	07-01-33	Mean	337	75	401	74	243	284	NA	988	0.92	0.15	12.6		
				COV (%)	10.7%		10.5%		20.6%	10.9%		16.6%	21.7%	0.0%	10.1%		
				MARV													
Oct-10	FX-100HS(E)	NP-NW	07-01-34	Mean	337	75	401	74	243	284	NA	988	0.92	0.15	12.6		
				COV (%)	10.7%		10.5%		20.6%	10.9%		16.6%	21.7%	0.0%	10.1%		
				MARV													
Oct-10	FX-60	SF-W	07-01-35	Mean	339	26	400	21	148	168	NA	1356	0.26	0.38	6.8		
				COV (%)	4.6%		6.0%		8.1%	7.7%		4.9%	11.5%	21.1%	0.3%		
				MARV													
Sep-11	FX-40HS-C	NP-NW	07-09-42	Mean	139	76	134	74	53	71	NA	323	2.61	0.19	4.4		
				COV (%)	11.5%		9.7%		17.0%	8.5%		15.5%	18.4%	5.3%	2.3%		
				MARV													
Sep-11	FX-38A/O	NP-NW	07-09-43	Mean	126	67	154	67	50	82	NA	347	2.23	0.2	4.9		
				COV (%)	7.9%		10.4%		10.0%	4.9%		5.8%	5.8%	5.0%	2.0%		
				MARV													
Sep-11	FX-11	SF-W	07-09-44	Mean	134	18	108	24	83	70	NA	363	0.16	0.27	2.8		
				COV (%)	7.5%		15.7%		14.5%	7.1%		3.9%	31.3%	11.1%	0.7%		
				MARV													
Sep-11	FX-370TF	SF-W	07-09-45	Mean	475	24	428	16	216	155	NA	1556	0.23	0.3	9.7		
				COV (%)	4.4%		4.9%		8.3%	7.1%		10.1%	34.8%	6.7%	1.0%		
				MARV													
Sep-11	FX-400TF	SF-W	07-09-46	Mean	719	29	691	21	321	222	NA	2200	0.19	0.17	12.7		
				COV (%)	3.5%		3.0%		6.5%	2.3%		10.6%	21.1%	5.9%	0.8%		
				MARV													
Mar-12	FX-50HS	NP-NW	09-01-26	Mean	167	59	156	73	71	83	NA	498	2.2	0.16	5.9	Not Tested	Not Tested
				COV (%)	10.2%		14.7%		8.5%	14.5%		9.4%	18.2%	6.3%	3.4%		
				MARV													
Mar-12	FX-80HS	NP-NW	09-01-27	Mean	263	64	258	76	119	143	NA	634	1.2	0.14	6.8	Not Tested	Not Tested
				COV (%)	9.1%		9.3%		12.6%	11.2%		5.4%	8.3%	7.1%	5.9%		
				MARV													
Mar-12	FX-100HS	NP-NW	09-01-28	Mean	305	89	467	70	150	245	NA	1063	1.3	0.14	11.9	Not Tested	Not Tested
				COV (%)	15.1%		13.7%		12.0%	13.5%		14.8%	15.4%	7.1%	10.9%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Carthage Mills, Inc**
Contact Info: Toni Haines
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Mar-12	FX-120HS	NP-NW	09-01-29	Mean	326	86	571	64	163	281	NA	1296	1.1	0.16	13.4	Not Tested	Not Tested
				COV (%)	8.0%		4.2%		25.8%	13.2%		8.3%	9.1%	6.3%	6.0%		
				MARV													
Jun-12	FX-42A/O	NP-NW	09-01-30	Mean	118	74	140	78	50	60	NA	330	2.30	0.15	4.9	Not Tested	Not Tested
				COV (%)	10.2%		5.7%		12.0%	11.7%		8.5%	6.5%	6.8%	2.7%		
				MARV	105	NA	105	NA	45	45	NA	NA	NA	NA	4.1	70	70
Jun-12	Carthage 4%-HD	MF-W	09-01-31	Mean	444	22	358	21	275	298	NA	1361	1.10	0.42	8.8	Not Tested	Not Tested
				COV (%)	7.2%		5.9%		4.7%	12.8%		11.4%	6.4%	0.2%	0.6%		
				MARV	400	NA	315	NA	150	165	NA	1150	0.90	0.43	8.0	90	90
Jun-12	Carthage 6%	MF-W	09-01-32	Mean	496	36	278	31	192	77	NA	1064	0.76	0.21	6.3	Not Tested	Not Tested
				COV (%)	3.6%		4.3%		6.8%	10.4%		3.5%	5.3%	0.0%	0.3%		
				MARV	370	NA	250	NA	100	60	NA	950	0.28	0.21	5.6	90	90
Jun-12	Carthage 15%	MF-W	09-01-33	Mean	430	35	234	16	191	106	NA	737	2.70	0.44	6.0	94	96
				COV (%)	3.7%		3.4%		11.0%	5.7%		16.4%	7.8%	18.2%	0.7%		
				MARV	365	NA	200	NA	115	75	NA	675	2.10	0.43	5.6	90	90
Mar-12	FX-200MF	C-W	09-01-34	Mean	399	24	335	17	147	111	NA	1315	0.6	0.41	7.4	Not Tested	Not Tested
				COV (%)	3.8%		3.6%		9.5%	8.1%		9.5%	6.7%	2.4%	1.4%		
				MARV													
Jun-12	FX-370MF	MF-W	09-01-35	Mean	503	34	301	22	273	150	NA	1565	0.53	0.36	9.8	Not Tested	Not Tested
				COV (%)	3.4%		5.0%		7.0%	7.3%		19.0%	13.2%	8.3%	0.7%		
				MARV	400	NA	250	NA	180	110	NA	NA	0.52	0.60	8.5	70	70
Jun-12	FX-400MF	MF-W	09-01-36	Mean	521	23	484	23	253	343	NA	1389	0.68	0.59	13.9	Not Tested	Not Tested
				COV (%)	6.0%		11.8%		9.5%	16.6%		11.3%	13.2%	0.3%	0.6%		
				MARV	475	NA	440	NA	180	180	NA	NA	0.40	0.60	14.5	70	70
Jun-12	FX-465MF	MF-W	09-01-37	Mean	504	24	384	25	196	224	NA	1450	0.63	0.40	8.6	Not Tested	Not Tested
				COV (%)	5.0%		12.5%		7.1%	10.3%		9.0%	14.3%	2.5%	1.4%		
				MARV	450	NA	350	NA	140	175	NA	NA	0.26	0.43	10.1	70	70
Jun-12	FX-270TF	SF-W	09-01-38	Mean	360	27	338	24	149	155	NA	1278	0.31	0.28	6.7	Not Tested	Not Tested
				COV (%)	2.8%		5.9%		4.7%	7.1%		5.1%	12.9%	3.6%	1.2%		
				MARV	350	NA	350	NA	120	120	NA	1000	0.27	0.50	6.9	80	80
Jun-12	FX-46A/O	NP-NW	09-04-16	Mean	125	76	152	77	55	77	NA	414	1.98	0.15	4.9	Not Tested	Not Tested
				COV (%)	9.8%	NA	9.5%	NA	14.7%	12.4%	NA	6.4%	20.4%	1.4%	4.1%		
				MARV	120	NA	120	NA	50	50	NA	NA	NA	NA	4.6	70	70
Sep-12	FX-30HS	NP-NW	09-07-35	Mean	98	63	96	99	53	60	NA	268	2.38	0.24	3.6	94	86
				COV (%)	14.1%	NA	16.1%	NA	12.5%	17.2%	NA	14.9%	26.4%	15.0%	10.5%		
				MARV	80	NA	80	NA	30	30	NA	210	2.00	0.30	2.5	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Carthage Mills, Inc**
Contact Info: Toni Haines
4243 Hunt Rd.
Cinncinnati, OH 45242
Phone:(513) 794-1600 Fax: Email: thaines@carthagemills.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-12	FX-40HS	NP-NW	09-07-36	Mean	116	62	150	80	59	80	NA	392	2.41	0.21	4.4	Not Tested	Not Tested
				COV (%)	8.6%	NA	14.4%	NA	13.6%	20.0%	NA	6.9%	17.3%	0.7%	2.5%		
				MARV	115	NA	115	NA	50	50	NA	310	2.00	0.212	3.5	70	70
Sep-12	FX-45HS	NP-NW	09-07-37	Mean	126	64	126	105	65	83	NA	360	2.49	0.24	4.2	Not Tested	Not Tested
				COV (%)	10.7%	NA	13.6%	NA	13.4%	15.0%	NA	16.0%	16.7%	8.1%	5.7%		
				MARV	120	NA	120	NA	50	50	NA	335	1.50	0.212	4.0	70	70
Sep-12	FX-60HS	NP-NW	09-07-38	Mean	216	82	171	93	116	131	NA	455	1.50	0.16	5.6	Not Tested	Not Tested
				COV (%)	8.3%	NA	22.5%	NA	17.1%	15.0%	NA	10.2%	12.0%	9.5%	7.2%		
				MARV	160	NA	160	NA	60	60	NA	410	1.50	0.212	5.0	70	70
Sep-12	FX-70HS	NP-NW	09-07-39	Mean	216	80	210	84	117	136	NA	564	1.18	0.15	6.6	Not Tested	Not Tested
				COV (%)	9.3%	NA	13.4%	NA	9.2%	17.4%	NA	8.1%	8.3%	3.8%	7.6%		
				MARV	180	NA	180	NA	75	75	NA	460	1.50	0.212	5.9	70	70
Sep-12	FX-80HS(E)	NP-NW	09-07-40	Mean	250	77	345	80	137	205	NA	865	1.66	0.17	9.3	Not Tested	Not Tested
				COV (%)	16.0%	NA	28.1%	NA	15.2%	13.3%	NA	14.8%	5.6%	8.2%	6.6%		
				MARV	220	NA	220	NA	95	95	NA	575	1.50	0.18	8.0	70	70
Sep-12	FX-55	SF-W	09-07-41	Mean	233	26	208	16	100	83	NA	813	0.25	0.42	4.1	86	88
				COV (%)	3.9%	NA	4.9%	NA	4.3%	5.7%	NA	5.0%	37.6%	17.2%	0.9%		
				MARV	200	NA	200	NA	75	75	NA	700	0.05	0.425	4.0	70	70
Sep-12	FX-66	SF-W	09-07-42	Mean	326	27	336	15	128	122	NA	1304	0.27	0.47	6.5	Not Tested	Not Tested
				COV (%)	4.2%	NA	2.1%	NA	5.8%	7.2%	NA	7.6%	21.9%	6.3%	0.5%		
				MARV	315	NA	315	NA	113	113	NA	900	0.05	0.425	4.2	70	70

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Manufacturer: **Construction Fabrics and Supply**
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1603 James P. Rogers Drive
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Phone:(229) 244-0004 Fax: (229) 244-9932 Email: angie@siltfenceusa.com

Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Oct-10	CONFAB 5009	SF-W	07-01-07	Mean	128	19	152	21	56	64	NA	430	0.11	0.32	2.2		
				COV (%)	4.7%		7.2%		5.4%	20.3%		2.8%	9.1%	9.4%	2.3%		
				MARV													
Oct-10	CONFAB CE 5026	SF-W	07-01-08	Mean	161	21	152	18	85	104	NA	608	1.44	0.58	3.8		
				COV (%)	5.6%		15.1%		5.9%	11.5%		3.3%	20.1%	1.7%	14.5%		
				MARV													
Oct-10	CONFAB CE 5027	SF-W	07-01-09	Mean	105	24	106	28	58	54	NA	325	0.14	0.3	2.4		
				COV (%)	5.7%		16.0%		8.6%	11.1%		2.8%	35.7%	13.3%	2.5%		
				MARV													
Oct-10	CONFAB CE 5030	SF-W	07-01-10	Mean	70	22	90	20	42	46	NA	211	0.06	0.38	1.8		
				COV (%)	5.7%		7.8%		4.8%	4.3%		10.4%	33.3%	21.1%	0.6%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Contech Construction Products**

Contact Info: Randy Ramsey
9025 Centre Pointe Dr. Suite 400
West Chester, OH 45069
Phone:(513) 645-7545 Fax: Email: ramseyr@contech-cpi.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	C250	SF-W	07-01-31	Mean	339	26	400	21	148	168	NA	1356	0.26	0.38	6.8		
				COV (%)	4.6%		6.0%		8.1%	7.7%		4.9%	11.5%	21.1%	0.3%		
				MARV													
Oct-10	C46NW	NP-NW	07-01-32	Mean	110	48	102	81	54	64	NA	305	1.68	0.16	4.3		
				COV (%)	8.2%		11.8%		16.7%	14.1%		12.5%	17.9%	12.5%	5.8%		
				MARV													
Jun-12	C80NW	NP-NW	09-01-25	Mean	263	64	258	76	119	143	NA	634	1.2	0.14	6.8	Not Tested	Not Tested
				COV (%)	9.1%		9.3%		12.6%	11.2%		5.4%	8.3%	7.1%	5.9%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **DALCO Nonwovens**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Apr-13	DalTex 1031	NP-NW	09-10-28	Mean	87	60	128	62	42	69	NA	305	3.18	0.23	3.5	98	94
				COV (%)	11.3%	NA	13.9%	NA	9.2%	15.6%	NA	9.3%	5.4%	8.6%	5.6%	NA	NA
				MARV	80	NA	80	NA	25	25	NA	210	2.20	0.30	3.1 ave	70	70
Apr-13	DalTex 1035	NP-NW	09-10-29	Mean	134	86	176	80	67	93	NA	335	2.29	0.16	4.1	Not Tested	Not Tested
				COV (%)	10.2%	NA	11.1%	NA	21.5%	11.8%	NA	11.7%	20.2%	6.1%	7.3%	NA	NA
				MARV	90	NA	90	NA	40	40	NA	260	2.20	0.30	3.5 ave	70	70
Apr-13	DalTex 1040	NP-NW	09-10-30	Mean	116	66	127	84	60	80	NA	330	2.04	0.15	4.0	Not Tested	Not Tested
				COV (%)	12.2%	NA	13.6%	NA	9.7%	18.1%	NA	4.2%	11.5%	0.7%	4.5%	NA	NA
				MARV	100	NA	100	NA	45	45	NA	310	2.00	0.21	4.0 ave	70	70
Apr-13	DalTex 1045	NP-NW	09-10-31	Mean	128	82	147	89	70	86	NA	361	2.66	0.21	4.4	Not Tested	Not Tested
				COV (%)	10.3%	NA	9.8%	NA	15.7%	14.0%	NA	12.0%	9.4%	4.7%	5.2%	NA	NA
				MARV	120	NA	120	NA	50	50	NA	335	1.80	0.21	4.5 ave	70	70
Apr-13	DalTex 1060	NP-NW	09-10-32	Mean	192	87	232	84	112	146	NA	531	1.56	0.15	6.2	Not Tested	Not Tested
				COV (%)	13.5%	NA	8.6%	NA	9.9%	12.4%	NA	9.9%	32.1%	2.0%	5.5%	NA	NA
				MARV	160	NA	160	NA	60	60	NA	410	1.60	0.21	6.0 ave	70	70
Apr-13	DalTex 1070	NP-NW	09-10-33	Mean	189	72	228	75	95	129	NA	554	1.95	0.14	6.0	Not Tested	Not Tested
				COV (%)	10.2%	NA	7.7%	NA	10.6%	12.5%	NA	5.7%	15.2%	0.7%	2.3%	NA	NA
				MARV	180	NA	180	NA	75	75	NA	460	1.50	0.21	7.0 ave	70	70
Apr-13	DalTex 1080	NP-NW	09-10-34	Mean	231	78	261	78	130	143	NA	664	1.38	0.13	7.6	Not Tested	Not Tested
				COV (%)	7.3%	NA	8.3%	NA	14.3%	9.2%	NA	9.1%	8.0%	3.8%	4.1%	NA	NA
				MARV	205	NA	205	NA	80	80	NA	525	1.40	0.18	8.0	70	70
	DalTex 1100 Withdrawn	NP-NW	09-10-35	Mean													
				COV (%)													
				MARV													
Apr-13	DalTex 1101	NP-NW	09-10-36	Mean	322	82	358	77	153	201	NA	864	1.41	0.14	10.1	Not Tested	Not Tested
				COV (%)	8.2%	NA	5.1%	NA	15.6%	8.8%	NA	7.3%	5.2%	3.7%	2.5%	NA	NA
				MARV	270	NA	270	NA	100	100	NA	725	0.94	0.15	10.0	70	70

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Manufacturer: **DDD Erosion Control, Inc**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Mar-12	1211 SF 3.2	SF-W	09-01-10	Mean	135	25	120	35	71	72	NA	477	0.15	0.221	2.9	Not Tested	Not Tested
				COV (%)	10.4%		5.8%		5.6%	8.3%		5.0%	13.3%	9.0%	1.0%		
				MARV	143	NA	231	NA	55	88		75	0.165	0.326	2.9		
Jun-12	DDDSF 1211A	SF-W	09-04-01	Mean	115	35	131	42	48	56	NA	291	0.17	0.27	2.1	Not Tested	Not Tested
				COV (%)	6.1%		4.6%		6.3%	8.9%		8.2%	17.6%	18.5%	1.4%		
				MARV	140	NA	153	NA	54	60	NA	NA	0.09	0.36	2.1	>90	>90
Sep-12	3D3.1NW	NP-NW	2010-01-016	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	**Pending**	**Pending**
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	**NA**	**NA**
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70
Sep-12	3D3.5NW	NP-NW	2010-01-017	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Sep-12	3D4NW	NP-NW	2010-01-018	Mean	129	122	124	55	84	60	NA	334	2.08	0.22	4.2	Not Tested	Not Tested
				COV (%)	15.4%	NA	13.8%	NA	16.4%	15.3%	NA	17.7%	14.9%	13.4%	5.9%		
				MARV	100	NA	100	NA	50	50	NA	325	2.0	0.212	4.0	70	70
Sep-12	3D4.5NW	NP-NW	2010-01-019	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70
Sep-12	3D6NW	NP-NW	2010-01-020	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		
Sep-12	3D7NW	NP-NW	2010-01-021	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	3D8NW	NP-NW	2010-01-022	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.3%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Sep-11	3D10NW	NP-NW	2010-01-023	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													
Sep-11	3D12NW	NP-NW	2010-01-024	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Sep-11	3D16NW	NP-NW	2010-01-025	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **DDD Erosion Control, Inc**

Contact Info: Mr. Don Davis/ Mrs. Kelli Davis
P.O. Box 694, 1383 Industrial Dr.
Ashburn, GA 31714
Phone:(229) 567-0751 Fax: Email: ddderosion@windstream.net

Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Sep-12	3D200W	SF-W	2010-01-026	Mean	207	23	216	20	97	104	NA	805	0.11	0.13	4.3	83	64
				COV (%)	3.4%	NA	3.9%	NA	6.1%	3.8%	NA	4.0%	45.6%	6.4%	0.7%		
				MARV	200	NA	200	NA	75	75	NA	450	0.05	0.3	4.0	70	70
Apr-13	3D315W	SF-W	2010-01-027	Mean	372	33	379	22	165	128	NA	1472	0.16	0.19	6.8	Not tested	Not Tested
				COV (%)	5.1%	NA	3.5%	NA	9.3%	4.5%	NA	1.6%	27.9%	15.5%	1.5%	NA	NA
				MARV	315	NA	315	NA	120	120	NA	1000	0.05	0.43	6.3	70	70
Jan-13	DDDGA36-A	C-W	2010-01-028	Mean	173	19	118	20	79	72	NA	564	1.75	0.46	3.5	**Pending**	**Pending**
				COV (%)	5.2%	NA	9.1%	NA	8.6%	6.4%	NA	4.1%	7.4%	8.8%	0.9%	**NA**	**NA**
				MARV	150	NA	110	NA	60	60	NA	NA	1.00	0.60	NA	80	80
Jan-13	DDDGA36-C	MF-W	2010-01-029	Mean	351	38	208	24	199	83	NA	759	3.17	0.42	5.6	Not Tested	Not Tested
				COV (%)	5.2%	NA	4.3%	NA	9.8%	8.3%	NA	2.6%	3.1%	0.5%	0.5%	NA	NA
				MARV	350	NA	200	NA	65	65	NA	NA	0.50	0.43	NA	80	80
Nov-11	3D-2198	MF-W	2010-01-030	Mean	374	43	329	27	177	128		718	2.35	0.43	6.7		
				COV (%)	3.2%		5.5%		7.3%	6.3%		18.8%	2.6%	4.7%	2.1%		
				MARV													
Nov-11	3D-2199	MF-W	2010-01-031	Mean	435	42	289	24	157	83		799	1.11	0.21	6.8		
				COV (%)	7.1%		3.8%		15.3%	6.0%		4.0%	4.5%	0.0%	1.0%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Don & Low, LTD**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	LOTRAK 315GT	SF-W	07-09-06	Mean	360	23	350	20	140	146	NA	1275	0.34	0.43	6.5		
				COV (%)	4.4%		2.0%		4.3%	4.1%		5.8%	26.5%	9.3%	0.6%		
				MARV													
Jul-11	LOTRAK 300GT	SF-W	07-09-39	Mean	342	17	311	14	121	129	NA	1165	0.24	0.32	6.5		
				COV (%)	6.7%		6.4%		5.0%	3.9%		9.0%	16.7%	9.4%	0.3%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Edge Tech, LLC**

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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Jun-12	ET340X	NP-NW	09-04-10	Mean	94	77	100	62	40	42	NA	280	1.53	0.16	3.8	65	64
				COV (%)	22.7%		10.0%		17.4%	10.2%	NA	6.4%	16.6%	5.4%	2.4%		
				MARV	101	60	90	60	45	39	NA	292	1.70	0.10	4.0		
Jun-12	ET360X	NP-NW	09-04-11	Mean	163	70	192	61	53	63	NA	460	0.78	0.09	5.9	63	58
				COV (%)	9.7%		6.6%		9.3%	10.5%	NA	6.1%	15.2%	4.7%	1.0%		
				MARV	135	60	118	60	67	60	NA	436	1.34	0.09	6.0		
Jun-12	ET380X	NP-NW	09-04-12	Mean	193	77	258	55	74	85	NA	609	0.54	0.08	8.0	73	76
				COV (%)	5.0%		7.4%		12.0%	12.3%	NA	3.6%	14.2%	3.2%	1.2%		
				MARV	191	60	168	60	90	79	NA	607	1.00	0.07	8.3		
Jan-13	ET200GT	SF-W	09-10-10	Mean	222	24	230	20	99	99	NA	853	0.11	0.13	4.4	Not Tested	Not Tested
				COV (%)	3.2%	NA	4.7%	NA	6.4%	6.6%	NA	1.5%	30.4%	7.5%	0.9%	NA	NA
				MARV	215	NA	225	NA	90	110	NA	700	0.05	0.30	4.0	70	70
Jun-12	ET300GT	SF-W	09-10-11	Mean	378	30	297	25	155	115	NA	1152	0.23	0.14	5.9	Not Tested	Not Tested
				COV (%)	3.9%	NA	4.4%	NA	3.9%	4.5%	NA	1.9%	12.3%	7.1%	0.5%	NA	NA
				MARV	330	NA	320	NA	135	125	NA	1000	0.05	0.42	6.3	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **GSE Lining Technologies**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	CE 3	NP-NW	07-09-07	Mean	93	80	152	77	50	85	NA	354	3.03	0.19	4.2		
				COV (%)	10.8%		6.6%		16.0%	7.1%		7.9%	11.6%	5.3%	4.8%		
				MARV													
Jul-11	CE 4	NP-NW	07-09-08	Mean	119	86	178	71	55	106	NA	400	2.21	0.17	4.8		
				COV (%)	9.2%		7.9%		12.7%	16.0%		5.8%	5.0%	11.8%	4.2%		
				MARV													
Jul-11	NW 10	NP-NW	07-09-11	Mean	387	73	275	80	223	140	NA	968	1.81	0.15	10.1		
				COV (%)	6.5%		5.8%		7.2%	15.7%		6.3%	5.0%	6.7%	4.0%		
				MARV													
Nov-11	CE 6	NP-NW	08-06-01	Mean	158	66	186	63	95	144	NA	652	1.93	0.15	6.9		
				COV (%)	4.4%		5.9%		11.6%	12.5%		11.2%	4.7%	0.0%	8.7%		
				MARV													
Nov-11	CE 8	NP-NW	08-06-02	Mean	228	63	237	71	133	179	NA	635	1.5	0.16	7.8		
				COV (%)	7.0%		17.7%		14.3%	9.5%		10.2%	6.7%	12.5%	7.7%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Hanes Geo Components (formerly Webtec and Ikex)**

Contact Info: Mr. Keith Harris
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Phone:(800) 438-0027 Fax: (800) 239-4539 Email: keith.harris@hanescompanies.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Nov-11	TerraTex N10	NP-NW	08-01-36	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													
Nov-11	TerraTex N12	NP-NW	08-01-37	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Nov-11	TerraTex N16	NP-NW	08-01-38	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													
Nov-11	TerraTex GS-250	SF-W	08-01-39	Mean	318	26	288	22	132	113	NA	1025	0.17	0.26	5.8		
				COV (%)	2.8%		3.1%		6.8%	5.3%		4.8%	5.9%	15.4%	0.5%		
				MARV													
Nov-11	TerraTex OL	NP-NW	08-01-41	Mean	114	48	103	71	49	54	NA	318	1.37	0.15	4		
				COV (%)	11.4%		14.6%		16.3%	11.1%		13.8%	23.4%	6.7%	4.0%		
				MARV													
Nov-11	TerraTex OLI	NP-NW	08-01-42	Mean	146	49	122	71	53	59	NA	346	1.16	0.14	4.6		
				COV (%)	12.3%		14.8%		13.2%	10.2%		15.6%	25.9%	0.0%	3.3%		
				MARV													
Nov-11	TerraTex SC	SF-W	08-01-43	Mean	243	24	313	33	144	91	NA	718	2.79	0.76	5.8		
				COV (%)	6.6%		5.1%		9.7%	6.6%		15.5%	6.1%	10.5%	1.4%		
				MARV													
Nov-11	TerraTex EP-11	MF-W	08-01-55	Mean	374	36	201	22	117	48	NA	639	1.89	0.39	5.7		
				COV (%)	4.5%		5.0%		4.3%	10.4%		3.3%	3.2%	30.8%	1.2%		
				MARV													
Nov-11	TerraTex SCs	SF-W	08-01-58	Mean	243	24	313	33	144	91	NA	718	2.79	0.76	5.8		
				COV (%)	6.6%		5.1%		9.7%	6.6%		15.5%	6.1%	10.5%	1.4%		
				MARV													
Mar-12	TerraTex SF-D	SF-W	08-04-23	Mean	140	20	108	31	75	65	NA	359	0.24	0.4	2.5		
				COV (%)	9.3%		18.5%		5.3%	7.7%		10.9%	29.2%	50.0%	1.6%		
				MARV													
Mar-12	TerraTex SF-90	SF-W	08-04-24	Mean	109	23	92	27	64	52	NA	261	0.25	0.4	1.9		
				COV (%)	10.1%		11.9%		6.3%	7.7%		8.8%	40.0%	25.0%	1.6%		
				MARV													
Sep-11	TerraTex EP	MF-W	08-04-29	Mean	419	25	257	25	155	106	NA	996	0.53	0.25	6.2		
				COV (%)	2.1%		6.6%		6.5%	7.5%		8.2%	5.7%	12.0%	0.5%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Hanes Geo Components (formerly Webtec and Ikex)**

Contact Info: Mr. Keith Harris
815 Buxton St.
Winston-Salem, NC 27101
Phone:(800) 438-0027 Fax: (800) 239-4539 Email: keith.harris@hanescompanies.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-12	Terra Tex HPG-16	C-W	09-04-02	Mean	394	28	314	16	174	113	NA	1270	0.80	0.56	7.1	Not Tested	Not Tested
				COV (%)	4.0%	NA	3.7%	NA	6.7%	4.9%	NA	2.2%	3.4%	2.5%	0.3%		
				MARV	315	15	315	15	125	125	NA	700	0.7	0.425	NA	80	80
Sep-12	TerraTex N04	NP-NW	09-07-53	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Sep-12	TerraTex SD	NP-NW	09-07-54	Mean	129	122	124	55	84	60	NA	334	2.08	0.22	4.2	Not Tested	Not Tested
				COV (%)	15.4%	NA	13.8%	NA	16.4%	15.3%	NA	17.7%	14.9%	13.4%	5.9%		
				MARV	100	NA	100	NA	50	50	NA	325	2.0	0.212	4.0	70	70
Sep-12	TerraTex N4.5	NP-NW	09-07-55	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70
Sep-12	TerraTex N06	NP-NW	09-07-56	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		
Sep-12	TerraTex N07	NP-NW	09-07-57	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	TerraTex N08	NP-NW	09-07-58	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.3%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Sep-12	TerraTex HPG-37	C-W	09-07-59	Mean	463	25	314	21	217	164	NA	1457	0.61	0.38	8.5	Not Tested	Not Tested
				COV (%)	6.1%	NA	6.9%	NA	12.4%	10.8%	NA	13.2%	11.7%	3.5%	0.9%		
				MARV	400	NA	250	NA	170	125	NA	1300	0.52	0.60	8.8	80	80
Sep-12	TerraTex HPG-56	C-W	09-07-60	Mean	587	24	576	21	211	398	NA	2090	0.15	0.14	12.9	Not Tested	Not Tested
				COV (%)	5.0%	NA	11.4%	NA	6.2%	11.2%	NA	8.5%	8.6%	24.0%	0.3%		
				MARV	550	NA	550	NA	150	200	NA	1750	0.025	0.43	13.0	80	80
Sep-12	TerraTex HPG-57	C-W	09-07-61	Mean	487	21	503	16	226	412	NA	2081	0.78	0.60	13.8	Not Tested	Not Tested
				COV (%)	15.2%	NA	8.0%	NA	4.0%	15.5%	NA	7.8%	6.6%	0.5%	0.4%		
				MARV	475	NA	440	NA	180	180	NA	2000	0.40	0.60	14	80	80
Sep-12	TerraTex GS	SF-W	09-07-62	Mean	207	23	216	20	97	104	NA	805	0.11	0.13	4.3	83	64
				COV (%)	3.4%	NA	3.9%	NA	6.1%	3.8%	NA	4.0%	45.6%	6.4%	0.7%		
				MARV	200	NA	200	NA	75	75	NA	450	0.05	0.3	4.0	70	70
Apr-13	TerraTex N03	NP-NW	2010-02-001	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	**Pending**	**Pending**
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	**NA**	**NA**
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Hanes Geo Components (formerly Webtec and Ikex)**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Apr-13	TerraTex HD	SF-W	2010-02-002	Mean	372	33	379	22	165	128	NA	1472	0.16	0.19	6.8	**Not tested**	**Not Tested**
				COV (%)	5.1%	NA	3.5%	NA	9.3%	4.5%	NA	1.6%	27.9%	15.5%	1.5%	**NA**	**NA**
				MARV	315	NA	315	NA	120	120	NA	1000	0.05	0.43	6.3	70	70
Nov-11	TerraTex EP9	MF-W	2010-02-04	Mean	435	42	289	24	157	83		799	1.11	0.21	6.8		
				COV (%)	7.1%		3.8%		15.3%	6.0%		4.0%	4.5%	0.0%	1.0%		
				MARV													
Jan-13	TerraTex GASF-C	MF-W	2010-02-05	Mean	351	38	208	24	199	83	NA	759	3.17	0.42	5.6	Not Tested	Not Tested
				COV (%)	5.2%	NA	4.3%	NA	9.8%	8.3%	NA	2.6%	3.1%	0.5%	0.5%	NA	NA
				MARV	350	NA	200	NA	65	65	NA	NA	0.50	0.43	NA	80	80

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Indian Valley Industries**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	3611 MC	SF-W	07-09-40	Mean	134	18	108	24	83	70	NA	363	0.16	0.27	2.8		
				COV (%)													
				MARV													
Sep-11	3617 C	SF-W	07-09-41	Mean	134	18	108	24	83	70	NA	363	0.16	0.27	2.8		
				COV (%)													
				MARV													
Apr-13	IVI - 66	NP-NW	2010-02-003	Mean	231	78	261	78	130	143	NA	664	1.38	0.13	7.6	Not Tested	Not Tested
				COV (%)	7.3%	NA	8.3%	NA	14.3%	9.2%	NA	9.1%	8.0%	3.8%	4.1%	NA	NA
				MARV	205	NA	205	NA	80	80	NA	525	1.40	0.18	8.0	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Kintex**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jan-13	DuPont SF40	HB-NW	09-10-25	Mean	163	72	188	72	86	84	NA	334	1.38	0.27	4.1	97	87
				COV (%)	8.7%	NA	10.3%	NA	12.3%	26.5%	NA	6.8%	18.3%	11.0%	3.4%	NA	NA
				MARV	130	NA	130	NA	60	60	NA	NA	0.80	0.21	NA	70	70
Jan-13	DuPont SF49	HB-NW	09-10-26	Mean	234	67	230	63	91	82	NA	421	0.59	0.14	4.9	Not Tested	Not Tested
				COV (%)	9.0%	NA	12.1%	NA	15.6%	16.8%	NA	9.4%	27.0%	6.9%	2.0%	NA	NA
				MARV	180	NA	180	NA	56	56	NA	NA	0.30	0.15	NA	70	70
Jan-13	Dupont SF65	HB-NW	09-10-27	Mean	305	71	343	65	98	115	NA	556	0.52	0.10	6.5	Not Tested	Not Tested
				COV (%)	10.6%	NA	10.3%	NA	18.0%	16.3%	NA	7.7%	28.4%	3.8%	2.5%	NA	NA
				MARV	250	NA	250	NA	79	79	NA	NA	0.1	0.09	NA	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Mattex Geotextiles**

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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Jun-12	Mattex 200	SF-W	09-01-23	Mean	245	23	231	18	85	130	NA	838	0.24	0.33	4.7	102	102
				COV (%)	3.7%		9.1%		3.5%	6.2%		3.7%	12.5%	15.2%	0.4%		
				MARV	200	NA	200	NA	75	75	NA	700	0.05	0.425	4.7	80	80
Jun-12	Mattex 315	SF-W	09-01-24	Mean	333	27	345	20	127	160	NA	1242	0.2	0.34	6.5	Not Tested	Not Tested
				COV (%)	2.7%		3.5%		3.9%	16.9%		10.3%	15.0%	11.8%	0.3%		
				MARV	315	NA	315	NA	115	115	NA	900	0.05	0.425	6.6	80	80

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Mutual Industries**

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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Oct-10	MISF 180	SF-W	07-01-02	Mean	139	19	142	19	58	57	NA	459	0.13	0.18	2.9		
				COV (%)	6.5%		7.0%		5.2%	8.8%		3.9%	46.2%	11.1%	1.0%		
				MARV													
Oct-10	MISF 901	SF-W	07-01-03	Mean	134	19	112	14	56	41	NA	437	0.12	0.26	3		
				COV (%)	6.0%		21.4%		7.1%	22.0%		5.9%	25.0%	15.4%	1.3%		
				MARV													
Oct-10	WF 200	SF-W	07-01-04	Mean	191	22	237	19	99	103	NA	778	0.31	0.69	4.2		
				COV (%)	4.7%		8.9%		6.1%	4.9%		3.5%	48.4%	13.0%	1.4%		
				MARV													
Oct-10	WF 315	SF-W	07-01-05	Mean	302	20	317	23	169	158	NA	1083	0.17	0.54	5.8		
				COV (%)	5.3%		10.7%		13.0%	7.6%		5.4%	5.9%	7.4%	1.4%		
				MARV													
Oct-10	WF 200S	SF-W	07-01-06	Mean	188	19	201	17	76	98	NA	740	0.1	0.25	4.4		
				COV (%)	5.9%		10.4%		9.2%	9.2%		4.6%	20.0%	28.0%	2.3%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Performance Fabrics and Fibers**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	NG0350	NP-NW	07-01-22	Mean	112	91	141	83	70	84	NA	341	2.26	0.15	4.1		
				COV (%)	18.8%		11.3%		18.6%	17.9%		14.4%	8.8%	0.0%	8.0%		
				MARV													
Oct-10	NG0400	NP-NW	07-01-23	Mean	118	77	126	74	72	63	NA	391	2.17	0.15	3.9		
				COV (%)	12.7%		21.4%		16.7%	20.6%		10.5%	5.5%	0.0%	9.2%		
				MARV													
Oct-10	NG0450	NP-NW	07-01-24	Mean	140	81	170	76	80	112	NA	394	1.98	0.15	5		
				COV (%)	15.0%		13.5%		16.3%	9.8%		10.2%	13.6%	0.0%	12.8%		
				MARV													
Oct-10	NG0600	NP-NW	07-01-25	Mean	179	75	192	76	98	123	NA	514	1.72	0.14	6.1		
				COV (%)	10.1%		9.4%		13.3%	17.1%		5.8%	8.7%	7.1%	4.3%		
				MARV													
Oct-10	NG0700	NP-NW	07-01-26	Mean	215	80	222	86	132	151	NA	648	1.34	0.13	7.6		
				COV (%)	6.5%		11.7%		11.4%	17.2%		7.6%	18.7%	15.4%	3.8%		
				MARV													
Oct-10	NG0800	NP-NW	07-01-27	Mean	300	78	280	88	129	153	NA	830	1.29	0.16	9.4		
				COV (%)	7.7%		8.2%		12.4%	18.3%		4.8%	24.8%	12.5%	5.3%		
				MARV													
Oct-10	NG1000	NP-NW	07-01-28	Mean	330	66	359	60	214	256	NA	1000	1.15	0.12	11.3		
				COV (%)	13.0%		16.4%		17.3%	14.1%		6.4%	27.0%	16.7%	10.9%		
				MARV													
Jul-11	NG0310	NP-NW	07-09-36	Mean	86	69	119	68	39	45	NA	289	2.47	0.17	3.8		
				COV (%)	17.4%		10.1%		17.9%	26.7%		11.8%	5.3%	11.8%	8.4%		
				MARV													
Jul-11	NG0420	NP-NW	07-09-37	Mean	129	86	141	84	64	70	NA	382	2.73	0.15	4.5		
				COV (%)	11.6%		14.9%		7.8%	21.4%		12.3%	23.4%	6.7%	7.1%		
				MARV													
Jul-11	NG01200	NP-NW	07-09-38	Mean	352	74	434	66	161	179	NA	1162	1.16	0.12	12.5		
				COV (%)	14.2%		13.1%		12.4%	12.8%		11.2%	12.1%	8.3%	12.0%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Poly Industrial Products, Inc**
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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Sep-11	PIP075B36	SF-W	08-01-30	Mean	78	24	76	32	57	52	NA	253	0.07	0.23	1.9		
				COV (%)	11.5%		11.8%		15.8%	7.7%		5.5%	14.3%	17.4%	2.6%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Propex, Inc (formerly SI Geosolutions)**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	Geotex 1071	NP-NW	07-01-15	Mean	337	75	401	74	243	284	NA	988	0.92	0.15	12.6		
				COV (%)	10.7%		10.5%		20.6%	10.9%		16.6%	21.7%	0.0%	10.1%		
				MARV													
Oct-10	Geotex 250ST	SF-W	07-01-16	Mean	339	26	400	21	148	168	NA	1356	0.26	0.38	6.8		
				COV (%)	4.6%		6.0%		8.1%	7.7%		4.9%	11.5%	21.1%	0.3%		
				MARV													
Oct-10	Geotex 351	NP-NW	07-01-17	Mean	102	62	135	69	66	88	NA	354	3.19	0.25	3.6		
				COV (%)	14.7%		10.4%		10.6%	13.6%		10.2%	13.2%	4.0%	8.9%		
				MARV													
Oct-10	Geotex 102F	C-W	07-01-18	Mean	429	28	394	147	191	128	NA	1131	0.47	0.32	8.6		
				COV (%)	2.3%		4.8%		5.2%	7.0%		5.3%	10.6%	12.5%	1.2%		
				MARV													
Oct-10	Geotex 4599	NP-NW	07-01-19	Mean	110	48	102	81	54	64	NA	305	1.68	0.16	4.3		
				COV (%)	8.2%		11.8%		16.7%	14.1%		12.5%	17.9%	12.5%	5.8%		
				MARV													
Mar-12	Geotex 501	NP-NW	09-01-04	Mean	167	59	156	73	71	83	NA	498	2.2	0.16	5.9	Not Tested	Not Tested
				COV (%)	10.2%		14.7%		8.5%	14.5%		9.4%	18.2%	6.3%	3.4%		
				MARV													
Mar-12	Geotex 1001	NP-NW	09-01-05	Mean	305	89	467	70	150	245	NA	1063	1.3	0.14	11.9	Not Tested	Not Tested
				COV (%)	15.1%		13.7%		12.0%	13.5%		14.8%	15.4%	7.1%	10.9%		
				MARV													
Mar-12	Geotex 1201	NP-NW	09-01-06	Mean	326	86	571	64	163	281	NA	1296	1.1	0.16	13.4	Not Tested	Not Tested
				COV (%)	8.0%		4.2%		25.8%	13.2%		8.3%	9.1%	6.3%	6.0%		
				MARV													
Mar-12	Geotex 4598	NP-NW	09-01-07	Mean	98	64	98	85	45	61	NA	338	1.9	0.18	5.8	Not Tested	Not Tested
				COV (%)	8.2%		9.2%		22.2%	41.0%		13.3%	21.1%	11.1%	8.6%		
				MARV													
Mar-12	Geotex 2x2HF	C-W	09-01-08	Mean	399	24	335	17	147	111	NA	1315	0.6	0.41	7.4	Not Tested	Not Tested
				COV (%)	3.8%		3.6%		9.5%	8.1%		9.5%	6.7%	2.4%	1.4%		
				MARV													
Mar-12	Geotex 801	NP-NW	09-01-09	Mean	263	64	258	76	119	143	NA	634	1.2	0.14	6.8	Not Tested	Not Tested
				COV (%)	9.1%		9.3%		12.6%	11.2%		5.4%	8.3%	7.1%	5.9%		
				MARV													
Sep-12	Geotex 200ST	SF-W	09-07-16	Mean	233	26	208	16	100	83	NA	813	0.25	0.42	4.1	86	88
				COV (%)	3.9%	NA	4.9%	NA	4.3%	5.7%	NA	5.0%	37.6%	17.2%	0.9%		
				MARV	200	NA	200	NA	75	75	NA	700	0.05	0.425	4.0	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Propex, Inc (formerly SI Geosolutions)**

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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Sep-12	Geotex 315ST	SF-W	09-07-17	Mean	326	27	336	15	128	122	NA	1304	0.27	0.47	6.5	Not Tested	Not Tested
				COV (%)	4.2%	NA	2.1%	NA	5.8%	7.2%	NA	7.6%	21.9%	6.3%	0.5%		
				MARV	315	NA	315	NA	113	113	NA	900	0.05	0.425	4.2	70	70
Sep-12	Geotex 311	NP-NW	09-07-18	Mean	98	63	96	99	53	60	NA	268	2.38	0.24	3.6	94	86
				COV (%)	14.1%	NA	16.1%	NA	12.5%	17.2%	NA	14.9%	26.4%	15.0%	10.5%		
				MARV	80	NA	80	NA	30	30	NA	210	2.00	0.30	2.5	70	70
Sep-12	Geotex 401	NP-NW	09-07-19	Mean	116	62	150	80	59	80	NA	392	2.41	0.21	4.4	Not Tested	Not Tested
				COV (%)	8.6%	NA	14.4%	NA	13.6%	20.0%	NA	6.9%	17.3%	0.7%	2.5%		
				MARV	115	NA	115	NA	50	50	NA	310	2.00	0.212	3.5	70	70
Sep-12	Geotex 2130	SF-W	09-07-20	Mean	125	21	152	40	66	108	NA	465	0.25	0.45	3.3	88	92
				COV (%)	3.9%	NA	5.0%	NA	5.4%	7.2%	NA	13.9%	38.3%	8.7%	0.6%		
				MARV	124	NA	124	NA	65	65	NA	NA	0.10	0.60	3.1	80	80
	Geotex 2130D / Withdrawal	SF-W	09-07-21	Mean													
				COV (%)													
				MARV													
Sep-12	Geotex451	NP-NW	09-07-22	Mean	126	64	126	105	65	83	NA	360	2.49	0.24	4.2	Not Tested	Not Tested
				COV (%)	10.7%	NA	13.6%	NA	13.4%	15.0%	NA	16.0%	16.7%	8.1%	5.7%		
				MARV	120	NA	120	NA	50	50	NA	335	1.50	0.212	4.0	70	70
Sep-12	Geotex 601	NP-NW	09-07-23	Mean	216	82	171	93	116	131	NA	455	1.50	0.16	5.6	Not Tested	Not Tested
				COV (%)	8.3%	NA	22.5%	NA	17.1%	15.0%	NA	10.2%	12.0%	9.5%	7.2%		
				MARV	160	NA	160	NA	60	60	NA	410	1.50	0.212	5.0	70	70
Sep-12	Geotex 701	NP-NW	09-07-24	Mean	216	80	210	84	117	136	NA	564	1.18	0.15	6.6	Not Tested	Not Tested
				COV (%)	9.3%	NA	13.4%	NA	9.2%	17.4%	NA	8.1%	8.3%	3.8%	7.6%		
				MARV	180	NA	180	NA	75	75	NA	460	1.50	0.212	5.9	70	70
Sep-12	Geotex 861	NP-NW	09-07-25	Mean	250	77	345	80	137	205	NA	865	1.66	0.17	9.3	Not Tested	Not Tested
				COV (%)	16.0%	NA	28.1%	NA	15.2%	13.3%	NA	14.8%	5.6%	8.2%	6.6%		
				MARV	220	NA	220	NA	95	95	NA	575	1.50	0.18	8.0	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Silt Saver, Inc**

Contact Info: Mr. Earl R. Singleton
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
	Belted Silt Retention Fence/ Withdrawal	NP-NW	08-09-01	Mean													
				COV (%)													
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Skaps Industries**

Contact Info: Mr. Anurag Shah
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Athens, GA 30601
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	W 250	SF-W	08-01-01	Mean	318	26	288	22	132	113	NA	1025	0.17	0.26	5.8		
				COV (%)	2.8%		3.1%		6.8%	5.3%		4.8%	5.9%	15.4%	0.5%		
				MARV													
Sep-11	W 100	SF-W	08-01-02	Mean	243	24	313	33	144	91	NA	718	2.79	0.76	5.8		
				COV (%)	6.6%		5.1%		9.7%	6.6%		15.5%	6.1%	10.5%	1.4%		
				MARV													
Sep-11	M 404	MF-W	08-01-03	Mean	374	36	201	22	117	48	NA	639	1.89	0.39	5.7		
				COV (%)	4.5%		5.0%		4.3%	10.4%		3.3%	3.2%	30.8%	1.2%		
				MARV													
Sep-11	M 706	MF-W	08-01-04	Mean	446	27	275	26	183	100	NA	860	0.45	0.17	6		
				COV (%)	2.7%		5.1%		5.5%	9.0%		16.9%	40.0%	11.8%	1.0%		
				MARV													
Sep-11	GC 130	NP-NW	08-01-05	Mean	114	48	103	71	49	54	NA	318	1.37	0.15	4		
				COV (%)	11.4%		14.6%		16.3%	11.1%		13.8%	23.4%	6.7%	4.0%		
				MARV													
Sep-11	GC 140	NP-NW	08-01-06	Mean	146	49	122	71	53	59	NA	346	1.16	0.14	4.6		
				COV (%)	12.3%		14.8%		13.2%	10.2%		15.6%	25.9%	0.0%	3.3%		
				MARV													
Sep-11	GT 110	NP-NW	08-01-07	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													
Sep-11	GT 112	NP-NW	08-01-08	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Sep-11	GT 116	NP-NW	08-01-09	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													
Sep-12	GT 135	NP-NW	09-07-08	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Sep-12	GT 140	NP-NW	09-07-09	Mean	129	122	124	55	84	60	NA	334	2.08	0.22	4.2	Not Tested	Not Tested
				COV (%)	15.4%	NA	13.8%	NA	16.4%	15.3%	NA	17.7%	14.9%	13.4%	5.9%		
				MARV	100	NA	100	NA	50	50	NA	325	2.0	0.212	4.0	70	70
Sep-12	GT 142	NP-NW	09-07-10	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Skaps Industries**
Contact Info: Mr. Anurag Shah
335 Athena Drive
Athens, GA 30601
Phone:(706) 693-3440 Fax: (706) 693-3450 Email: anurag@skaps.com

Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Sep-12	GT 160	NP-NW	09-07-11	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		
Sep-12	GT 170	NP-NW	09-07-12	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	GT 180	NP-NW	09-07-13	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.3%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Sep-12	SW 200	SF-W	09-07-14	Mean	207	23	216	20	97	104	NA	805	0.11	0.13	4.3	83	64
				COV (%)	3.4%	NA	3.9%	NA	6.1%	3.8%	NA	4.0%	45.6%	6.4%	0.7%		
				MARV	200	NA	200	NA	75	75	NA	450	0.05	0.3	4.0	70	70
Apr-13	GT 131	NP-NW	2010-01-001	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	**Pending**	**Pending**
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	**NA**	**NA**
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70
Apr-13	SW 315	SF-W	2010-01-002	Mean	372	33	379	22	165	128	NA	1472	0.16	0.19	6.8	Not tested	Not Tested
				COV (%)	5.1%	NA	3.5%	NA	9.3%	4.5%	NA	1.6%	27.9%	15.5%	1.5%	NA	NA
				MARV	315	NA	315	NA	120	120	NA	1000	0.05	0.43	6.3	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Spilo PTY, Ltd.**
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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Jun-12	Spilo 200	SF-W	09-01-11	Mean	233	25	227	19	93	86	NA	936	0.17	0.31	4.6	90	93
				COV (%)	5.2%		3.1%		8.6%	3.5%		4.5%	11.8%	16.3%	0.6%		
				MARV	200	15	200	10	75	75	NA	NA	0.07	0.30	NA	90	90

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **SRW Products**

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Priceton, MN 55371
Phone:(763) 389-2722 Ext 122 Fax: Email: johnwold@srwproducts.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Oct-10	SRW SS5	SF-W	06-04-50	Mean	221	25	267	19	116	125		850	0.36	0.34	5.3		
				COV (%)													
				MARV													
Oct-10	SRW SS6	SF-W	06-04-51	Mean	346	27	324	21	129	151		1122	0.38	0.43	6.5		
				COV (%)													
				MARV													
Oct-10	BULLDOG SS5	SF-W	06-04-52	Mean	221	25	267	19	116	125		850	0.36	0.34	5.3		
				COV (%)													
				MARV													
Oct-10	BULLDOG SS6	SF-W	06-04-53	Mean	346	27	324	21	129	151		1122	0.38	0.43	6.5		
				COV (%)													
				MARV													
Oct-10	BULLDOG NW4	NP-NW	06-09-77	Mean	118	77	126	74	72	63	NA	391	2.17	0.15	3.9		
				COV (%)	12.7%		21.4%		16.7%	20.6%		10.5%	5.5%	0.0%	9.2%		
				MARV													
Oct-10	BULLDOG NW6	NP-NW	06-09-78	Mean	179	75	192	76	98	123	NA	514	1.72	0.14	6.1		
				COV (%)	10.1%		9.4%		13.3%	17.1%		5.8%	8.7%	7.1%	4.3%		
				MARV													
Oct-10	BULLDOG NW7	NP-NW	06-09-79	Mean	215	80	222	86	132	151	NA	648	1.34	0.13	7.6		
				COV (%)	6.5%		11.7%		11.4%	17.2%		7.6%	18.7%	15.4%	3.8%		
				MARV													
Oct-10	BULLDOG EC8	NP-NW	06-09-80	Mean	300	78	280	88	129	153	NA	830	1.29	0.16	9.4		
				COV (%)	7.7%		8.2%		12.4%	18.3%		4.8%	24.8%	12.5%	5.3%		
				MARV													
Oct-10	BULLDOG NW10	NP-NW	06-09-81	Mean	330	66	359	60	214	256	NA	1000	1.15	0.12	11.3		
				COV (%)	13.0%		16.4%		17.3%	14.1%		6.4%	27.0%	16.7%	10.9%		
				MARV													
Oct-10	SRW NW4	NP-NW	06-09-82	Mean	118	77	126	74	72	63	NA	391	2.17	0.15	3.9		
				COV (%)	12.7%		21.4%		16.7%	20.6%		10.5%	5.5%	0.0%	9.2%		
				MARV													
Oct-10	SRW NW6	NP-NW	06-09-83	Mean	179	75	192	76	98	123	NA	514	1.72	0.14	6.1		
				COV (%)	10.1%		9.4%		13.3%	17.1%		5.8%	8.7%	7.1%	4.3%		
				MARV													
Oct-10	SRW NW7	NP-NW	06-09-84	Mean	215	80	222	86	132	151	NA	648	1.34	0.13	7.6		
				COV (%)	6.5%		11.7%		11.4%	17.2%		7.6%	18.7%	15.4%	3.8%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **SRW Products**

Contact Info: Mr. John Wold
32020 126th Street
Priceton, MN 55371
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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Oct-10	SRW EC8	NP-NW	06-09-85	Mean	300	78	280	88	129	153	NA	830	1.29	0.16	9.4		
				COV (%)	7.7%		8.2%		12.4%	18.3%		4.8%	24.8%	12.5%	5.3%		
				MARV													
Oct-10	SRW NW10	NP-NW	06-09-86	Mean	330	66	359	60	214	256	NA	1000	1.15	0.12	11.3		
				COV (%)	13.0%		16.4%		17.3%	14.1%		6.4%	27.0%	16.7%	10.9%		
				MARV													
Jul-11	Bulldog LS3	NP-NW	07-04-19	Mean	86	69	119	68	39	45	NA	289	2.47	0.17	3.8		
				COV (%)	17.4%		10.1%		17.9%	26.7%		11.8%	5.3%	11.8%	8.4%		
				MARV													
Jul-11	Bulldog NW4.5	NP-NW	07-04-20	Mean	129	86	141	84	64	70	NA	382	2.73	0.15	4.5		
				COV (%)	11.6%		14.9%		7.8%	21.4%		12.3%	23.4%	6.7%	7.1%		
				MARV													
Jul-11	SRW LS3	NP-NW	07-04-21	Mean	86	69	119	68	39	45	NA	289	2.47	0.17	3.8		
				COV (%)	17.4%		10.1%		17.9%	26.7%		11.8%	5.3%	11.8%	8.4%		
				MARV													
Jul-11	SRW NW4.5	NP-NW	07-04-22	Mean	129	86	141	84	64	70	NA	382	2.73	0.15	4.5		
				COV (%)	11.6%		14.9%		7.8%	21.4%		12.3%	23.4%	6.7%	7.1%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **TenCate Geosynthetics (formerly MIRAFI Construction Products)**

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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Jul-11	MIRAFIFW-400	MF-W	07-04-07	Mean	366	26	339	25	144	148	NA	1177	1.57	0.32	6		
				COV (%)	3.8%		5.3%		8.3%	8.1%		6.3%	20.4%	9.4%	0.5%		
				MARV													
Jul-11	MIRAFIFW-404	MF-W	07-04-08	Mean	400	24	358	24	257	435	NA	1114	0.98	0.42	8.3		
				COV (%)	10.3%		7.3%		8.6%	12.4%		8.3%	3.1%	0.0%	0.6%		
				MARV													
Jul-11	MIRAFI 600X	SF-W	07-04-14	Mean	405	28	411	19	187	144	NA	1456	0.14	0.17	7.4		
				COV (%)	4.0%		3.6%		4.8%	4.9%		3.4%	28.6%	11.8%	0.3%		
				MARV													
Jul-11	PP15	SF-W	07-04-30	Mean	405	28	411	19	187	144	NA	1456	0.14	0.17	7.4		
				COV (%)	4.0%		3.6%		4.8%	4.9%		3.4%	28.6%	11.8%	0.3%		
				MARV													
Jul-11	PW44	MF-W	07-04-31	Mean	400	24	358	24	257	435	NA	1114	0.98	0.42	8.3		
				COV (%)	10.3%		7.3%		8.6%	12.4%		8.3%	3.1%	0.0%	0.6%		
				MARV													
Jul-11	PP 10	SF-W	07-04-32	Mean	243	26	189	23	124	115	NA	712	0.22	0.16	4		
				COV (%)	5.8%		12.7%		5.6%	7.0%		5.6%	13.6%	6.3%	1.8%		
				MARV													
Sep-11	FW700	MF-W	08-04-18	Mean	419	25	257	25	155	106	NA	996	0.53	0.25	6.2		
				COV (%)	2.1%		6.6%		6.5%	7.5%		8.2%	5.7%	12.0%	0.5%		
				MARV													
Sep-11	140 NC	NP-NW	08-04-19	Mean	128	61	143	66	62	81	NA	376	2.64	0.2	4.44		
				COV (%)	21.1%		14.7%		16.1%	16.0%		8.2%	9.8%	5.0%	6.5%		
				MARV													
Sep-11	160N	NP-NW	08-04-20	Mean	185	66	194	90	94	110	NA	529	2.1	0.21	7.14		
				COV (%)	13.0%		6.2%		12.8%	19.1%		9.3%	10.0%	1.0%	3.4%		
				MARV													
Sep-11	180N	NP-NW	08-04-21	Mean	220	56	214	74	135	161	NA	724	1.28	0.16	8.89		
				COV (%)	23.6%		17.3%		20.0%	23.0%		13.8%	24.2%	6.3%	2.4%		
				MARV													
Sep-11	MPV 500	HB-NW	08-04-22	Mean	108	54	104	71	52	61	NA	326	2.36	0.21	4.66		
				COV (%)	11.1%		13.5%		17.3%	13.1%		13.5%	9.3%	9.5%	8.4%		
				MARV													
Sep-11	PW70	MF-W	08-04-25	Mean	419	25	257	25	155	106	NA	996	0.53	0.25	6.2		
				COV (%)	2.1%		6.6%		6.5%	7.5%		8.2%	5.7%	12.0%	0.5%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **TenCate Geosynthetics (formerly MIRAFI Construction Products)**

Contact Info: Mr. Bruce Lacina
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	TN40	NP-NW	08-04-26	Mean	128	61	143	66	62	81	NA	376	2.64	0.2	4.44		
				COV (%)	21.1%		14.7%		16.1%	16.0%		8.2%	9.8%	5.0%	6.5%		
				MARV													
Sep-11	TN60	NP-NW	08-04-27	Mean	185	66	194	90	94	110	NA	529	2.1	0.21	7.14		
				COV (%)	13.0%		6.2%		12.8%	19.1%		9.3%	10.0%	1.0%	3.4%		
				MARV													
Sep-11	TN80	NP-NW	08-04-28	Mean	220	56	214	74	135	161	NA	724	1.28	0.16	8.89		
				COV (%)	23.6%		17.3%		20.0%	23.0%		13.8%	24.2%	6.3%	2.4%		
				MARV													
Sep-12	Mirafi 550X	SF-W	09-07-01	Mean	321	28	264	17	148	110	NA	1261	0.21	0.28	6.0	Not Tested	Not Tested
				COV (%)	2.8%	NA	5.7%	NA	6.7%	6.7%	NA	4.3%	37.0%	3.4%	0.6%		
				MARV	250	NA	250	NA	90	90	NA	900	0.05	0.43	5.0	70	70
Sep-12	Mirafi 170N	NP-NW	09-07-02	Mean	195	63	188	83	128	141	NA	632	1.21	0.15	7.0	Not Tested	Not Tested
				COV (%)	14.3%	NA	12.8%	NA	25.1%	21.3%	NA	12.8%	15.6%	2.3%	6.1%		
				MARV	180	NA	180	NA	75	75	NA	450	1.2	0.15	7.4	70	70
Sep-12	Mirafi 1100 NPA	NP-NW	09-07-03	Mean	307	66	280	112	193	236	NA	914	0.95	0.12	11.1	Not Tested	Not Tested
				COV (%)	13.3%	NA	16.6%	NA	14.3%	11.2%	NA	10.3%	4.2%	3.7%	5.1%		
				MARV	270	NA	270	NA	100	100	NA	700	0.8	0.15	10.8	70	70
Sep-12	Mirafi HP370	C-W	09-07-04	Mean	463	25	314	21	217	164	NA	1457	0.61	0.38	8.5	Not Tested	Not Tested
				COV (%)	6.1%	NA	6.9%	NA	12.4%	10.8%	NA	13.2%	11.7%	3.5%	0.9%		
				MARV	400	NA	250	NA	170	125	NA	1300	0.52	0.60	8.8	80	80
Sep-12	Mirafi HP565	C-W	09-07-05	Mean	587	24	576	21	211	398	NA	2090	0.15	0.14	12.9	Not Tested	Not Tested
				COV (%)	5.0%	NA	11.4%	NA	6.2%	11.2%	NA	8.5%	8.6%	24.0%	0.3%		
				MARV	550	NA	550	NA	150	200	NA	1750	0.025	0.43	13.0	80	80
Sep-12	Mirafi HP570	C-W	09-07-06	Mean	487	21	503	16	226	412	NA	2081	0.78	0.60	13.8	Not Tested	Not Tested
				COV (%)	15.2%	NA	8.0%	NA	4.0%	15.5%	NA	7.8%	6.6%	0.5%	0.4%		
				MARV	475	NA	440	NA	180	180	NA	2000	0.40	0.60	14	80	80
Sep-12	PP35	C-W	09-07-49	Mean	463	25	314	21	217	164	NA	1457	0.61	0.38	8.5	Not Tested	Not Tested
				COV (%)	6.1%	NA	6.9%	NA	12.4%	10.8%	NA	13.2%	11.7%	3.5%	0.9%		
				MARV	400	NA	250	NA	170	125	NA	1300	0.52	0.60	8.8	80	80
Sep-12	PP70	C-W	09-07-50	Mean	487	21	503	16	226	412	NA	2081	0.78	0.60	13.8	Not Tested	Not Tested
				COV (%)	15.2%	NA	8.0%	NA	4.0%	15.5%	NA	7.8%	6.6%	0.5%	0.4%		
				MARV	475	NA	440	NA	180	180	NA	2000	0.40	0.60	14	80	80
Sep-12	TN70	NP-NW	09-07-51	Mean	195	63	188	83	128	141	NA	632	1.21	0.15	7.0	Not Tested	Not Tested
				COV (%)	14.3%	NA	12.8%	NA	25.1%	21.3%	NA	12.8%	15.6%	2.3%	6.1%		
				MARV	180	NA	180	NA	75	75	NA	450	1.2	0.15	7.4	70	70

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-12	TNPA11	NP-NW	09-07-52	Mean	307	66	280	112	193	236	NA	914	0.95	0.12	11.1	Not Tested	Not Tested
				COV (%)	13.3%	NA	16.6%	NA	14.3%	11.2%	NA	10.3%	4.2%	3.7%	5.1%		
				MARV	270	NA	270	NA	100	100	NA	700	0.8	0.15	10.8	70	70
	Mirafi HP270 Withdrawn	C-W	09-10-15	Mean													
				COV (%)													
				MARV													
Apr-13	Mirafi HP770	C-W	09-10-16	Mean	774	29	604	27	341	522	NA	2250	0.35	0.40	16.0	Not Tested	Not Tested
				COV (%)	6.6%	NA	9.3%	NA	14.9%	21.3%	NA	9.3%	6.1%	17.4%	0.7%	NA	NA
				MARV	550	NA	450	NA	250	300	NA	1900	0.23	0.60	17.0 ave	80	80
	Mirafi 140NL Withdrawn	NP-NW	09-10-17	Mean													
				COV (%)													
				MARV													
	Mirafi 140N Withdrawn	NP-NW	09-10-18	Mean													
				COV (%)													
				MARV													
Apr-13	Mirafi 500X	SF-W	09-10-19	Mean	260	29	203	21	110	92	NA	860	0.13	0.20	4.2	80	76
				COV (%)	5.9%	NA	7.7%	NA	5.0%	8.0%	NA	2.5%	22.4%	10.0%	1.0%	NA	NA
				MARV	200	NA	200	NA	75	75	NA	700	0.05	0.42	4.0 ave	70	70
	Mirafi FW402 Withdrawn	MF-W	09-10-20	Mean													
				COV (%)													
				MARV													
Apr-13	Mirafi MPV500	NP-NW	09-10-21	Mean	111	69	105	89	53	52	NA	260	2.34	0.21	4.1	79	75
				COV (%)	4.1%	NA	13.3%	NA	17.1%	25.3%	NA	22.0%	9.4%	9.5%	10.8%	NA	NA
				MARV	101	NA	101	NA	39	39	NA	250	1.75	0.21	4.4 ave	70	70
Apr-13	PP10	SF-W	09-10-22	Mean	260	29	203	21	110	92	NA	860	0.13	0.20	4.2	80	76
				COV (%)	5.9%	NA	7.7%	NA	5.0%	8.0%	NA	2.5%	22.4%	10.0%	1.0%	NA	NA
				MARV	200	NA	200	NA	75	75	NA	700	0.05	0.42	4.0 ave	70	70
	PW42 Withdrawn	MF-W	09-10-23	Mean													
				COV (%)													
				MARV													
	TN38 Withdrawn	NP-NW	09-10-24	Mean													
				COV (%)													
				MARV													
	TN45 Withdrawn	NP-NW	09-10-37	Mean													
				COV (%)													
				MARV													

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Manufacturer: **Thrace-LINQ**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	AOL	NP-NW	07-09-12	Mean	126	67	154	67	50	82	NA	347	2.23	0.2	4.9		
				COV (%)	7.9%		10.4%		10.0%	4.9%		5.8%	5.8%	5.0%	2.0%		
				MARV													
Sep-11	130 EX	NP-NW	07-09-13	Mean	139	76	134	74	53	71	NA	323	2.61	0.19	4.4		
				COV (%)	11.5%		9.7%		17.0%	8.5%		15.5%	18.4%	5.3%	2.3%		
				MARV													
Sep-11	150 EX	NP-NW	07-09-14	Mean	169	69	263	58	75	118	NA	593	1.68	0.17	7.1		
				COV (%)	17.8%		11.8%		25.3%	12.7%		14.8%	23.2%	11.8%	4.2%		
				MARV													
Sep-11	160 EX	NP-NW	07-09-15	Mean	186	80	207	86	98	109	NA	574	2.26	0.21	7.8		
				COV (%)	16.7%		9.2%		13.3%	13.8%		14.5%	5.8%	0.0%	5.1%		
				MARV													
Sep-11	180 EX	NP-NW	07-09-16	Mean	231	82	251	79	119	136	NA	636	1.69	0.18	7.6		
				COV (%)	7.8%		14.3%		16.0%	11.0%		9.7%	15.4%	11.1%	7.9%		
				MARV													
Sep-11	225 EX	NP-NW	07-09-17	Mean	275	77	277	85	120	146	NA	666	1.78	0.2	8.7		
				COV (%)	13.5%		17.0%		20.0%	12.3%		8.7%	7.9%	5.0%	5.7%		
				MARV													
Sep-11	250 EX	NP-NW	07-09-18	Mean	338	70	354	79	170	229	NA	743	1.24	0.17	10.1		
				COV (%)	21.3%		13.8%		26.5%	15.7%		16.8%	16.9%	11.8%	5.9%		
				MARV													
Sep-11	275 EX	NP-NW	07-09-19	Mean	384	76	458	84	193	248	NA	1005	1.25	0.15	11.7		
				COV (%)	18.2%		12.7%		19.2%	10.5%		8.8%	13.6%	6.7%	16.2%		
				MARV													
Sep-11	350 EX	NP-NW	07-09-20	Mean	461	70	564	87	202	224	NA	1362	0.7	0.13	17.2		
				COV (%)	18.0%		6.0%		9.4%	10.7%		7.6%	17.1%	7.7%	8.1%		
				MARV													
Sep-11	GTF-190SF	SF-W	07-09-21	Mean	134	18	113	20	79	74	NA	350	0.14	0.29	2.7		
				COV (%)	11.9%		6.2%		11.4%	8.1%		5.4%	42.9%	17.2%	1.9%		
				MARV													
Sep-11	GTF-180SF	SF-W	07-09-22	Mean	134	18	108	24	83	70	NA	363	0.16	0.27	2.8		
				COV (%)	7.5%		15.7%		14.5%	7.1%		3.9%	31.3%	11.1%	0.7%		
				MARV													
Sep-11	GTF-170SF	SF-W	07-09-23	Mean	102	24	91	24	56	47	NA	266	0.15	0.29	2.2		
				COV (%)	15.7%		9.9%		7.1%	4.3%		7.5%	53.3%	24.1%	1.8%		
				MARV													

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Sep-11	GTF-195SF	SF-W	07-09-24	Mean	156	19	96	14	73	48	NA	448	0.22	0.23	2.7		
				COV (%)	7.7%		9.4%		8.2%	10.4%		4.2%	22.7%	13.0%	0.7%		
				MARV													
Sep-11	GTF-300	SF-W	07-09-26	Mean	371	24	346	16	150	124	NA	1281	0.14	0.21	6.7		
				COV (%)	4.9%		3.5%		7.3%	5.6%		9.0%	42.9%	19.0%	0.6%		
				MARV													
Sep-11	GTF-270	SF-W	07-09-27	Mean	346	25	344	19	137	131	NA	1171	0.18	0.32	6.2		
				COV (%)	5.2%		4.1%		5.8%	4.6%		2.7%	38.9%	31.3%	0.3%		
				MARV													
Sep-11	GTF-250	SF-W	07-09-29	Mean	336	24	305	15	124	109	NA	1143	0.19	0.19	5.9		
				COV (%)	4.8%		5.6%		3.2%	3.7%		3.7%	31.6%	5.3%	1.7%		
				MARV													
Sep-11	GTF-400	SF-W	07-09-30	Mean	475	24	428	16	216	155	NA	1556	0.23	0.3	9.7		
				COV (%)	4.4%		4.9%		8.3%	7.1%		10.1%	34.8%	6.7%	1.0%		
				MARV													
Sep-11	GTF-500	SF-W	07-09-31	Mean	719	29	691	21	321	222	NA	2200	0.19	0.17	12.7		
				COV (%)	3.5%		3.0%		6.5%	2.3%		10.6%	21.1%	5.9%	0.8%		
				MARV													
Sep-11	GTF-700	SF-W	07-09-32	Mean	875	29	836	26	399	284	NA	2600	0.21	0.19	14.7		
				COV (%)	2.7%		2.0%		7.8%	3.2%		4.5%	19.0%	5.3%	1.4%		
				MARV													
Sep-11	245 EX	NP-NW	07-09-33	Mean	288	79	331	77	177	184	NA	793	1.26	0.17	10.4		
				COV (%)	20.8%		10.6%		18.1%	8.2%		10.7%	9.5%	11.8%	7.7%		
				MARV													
Jun-12	120 EX	NP-NW	09-01-12	Mean	92	62	81	72	40	42	NA	253	3.04	0.24	3.1	83	83
				COV (%)	7.6%		7.4%		12.5%	21.4%		19.8%	12.2%	12.5%	6.8%		
				MARV	80	NA	80	NA	35	35	NA	220	2.20	0.21	2.8	70	70
Jun-12	GTF 200S	SF-W	09-01-13	Mean	219	20	185	14	84	76	NA	799	0.19	0.28	4.2	96	81
				COV (%)	4.1%		6.5%		8.3%	10.5%		4.3%	21.1%	25.0%	1.0%		
				MARV	180	NA	180	NA	70	70	NA	550	0.08	0.43	4.5	80	80
Jun-12	GTF 350	SF-W	09-01-14	Mean	360	27	338	24	149	155	NA	1278	0.31	0.28	6.7	Not Tested	Not Tested
				COV (%)	2.8%		5.9%		4.7%	7.1%		5.1%	12.9%	3.6%	1.2%		
				MARV	350	NA	350	NA	120	120	NA	1000	0.27	0.50	6.9	80	80
Jun-12	AOM	NP-NW	09-01-15	Mean	118	74	140	78	50	60	NA	330	2.30	0.15	4.9	Not Tested	Not Tested
				COV (%)	10.2%		5.7%		12.0%	11.7%		8.5%	6.5%	6.8%	2.7%		
				MARV	105	NA	105	NA	45	45	NA	NA	NA	NA	4.1	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Thrace-LINQ**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jun-12	120GEX	NP-NW	09-01-16	Mean	100	59	64	97	40	31	NA	195	3.00	0.13	3.3	91	59
				COV (%)	7.0%		12.5%		10.0%	12.9%		6.7%	12.0%	15.4%	5.5%		
				MARV	100	NA	90	NA	30	30	NA	250	1.50	0.21	3.0	70	70
Jun-12	GTF 404	MF-W	09-01-17	Mean	444	22	358	21	275	298	NA	1361	1.10	0.42	8.8	Not Tested	Not Tested
				COV (%)	7.2%		5.9%		4.7%	12.8%		11.4%	6.4%	0.2%	0.6%		
				MARV	400	NA	315	NA	150	165	NA	1150	0.90	0.43	8.0	90	90
Jun-12	GTF 465	MF-W	09-01-18	Mean	504	24	384	25	196	224	NA	1450	0.63	0.40	8.6	Not Tested	Not Tested
				COV (%)	5.0%		12.5%		7.1%	10.3%		9.0%	14.3%	2.5%	1.4%		
				MARV	450	NA	350	NA	140	175	NA	NA	0.26	0.43	10.1	70	70
Jun-12	GTF 400E	MF-W	09-01-19	Mean	496	36	278	31	192	77	NA	1064	0.76	0.21	6.3	Not Tested	Not Tested
				COV (%)	3.6%		4.3%		6.8%	10.4%		3.5%	5.3%	0.0%	0.3%		
				MARV	370	NA	250	NA	100	60	NA	950	0.28	0.21	5.6	90	90
Jun-12	GTF 400EO	MF-W	09-01-20	Mean	430	35	234	16	191	106	NA	737	2.70	0.44	6.0	94	96
				COV (%)	3.7%		3.4%		11.0%	5.7%		16.4%	7.8%	18.2%	0.7%		
				MARV	365	NA	200	NA	115	75	NA	675	2.10	0.43	5.6	90	90
Jun-12	GTF 370	MF-W	09-01-21	Mean	503	34	301	22	273	150	NA	1565	0.53	0.36	9.8	Not Tested	Not Tested
				COV (%)	3.4%		5.0%		7.0%	7.3%		19.0%	13.2%	8.3%	0.7%		
				MARV	400	NA	250	NA	180	110	NA	NA	0.52	0.60	8.5	70	70
Jun-12	GTF 570	MF-W	09-01-22	Mean	521	23	484	23	253	343	NA	1389	0.68	0.59	13.9	Not Tested	Not Tested
				COV (%)	6.0%		11.8%		9.5%	16.6%		11.3%	13.2%	0.3%	0.6%		
				MARV	475	NA	440	NA	180	180	NA	NA	0.40	0.60	14.5	70	70
Sep-12	125EX	NP-NW	09-04-13	Mean	125	66	130	71	66	72	NA	390	2.26	0.17	4.6	88	85
				COV (%)	5.9%	NA	6.8%	NA	16.9%	9.8%	NA	3.3%	6.1%	2.6%	2.8%		
				MARV	90	NA	90	NA	40	40	NA	265	2.1	0.212	3.5	70	70
Sep-12	140EX	NP-NW	09-04-14	Mean	144	92	178	82	79	105	NA	426	2.45	0.21	5.5	70	71
				COV (%)	18.6%	NA	11.5%	NA	12.4%	12.8%	NA	9.3%	17.1%	20.1%	4.4%		
				MARV	120	NA	120	NA	50	50	NA	340	1.8	0.212	4.5	70	70
Sep-12	AOH	NP-NW	09-04-15	Mean	125	76	152	77	55	77	NA	414	1.98	0.15	4.9	Not Tested	Not Tested
				COV (%)	9.8%	NA	9.5%	NA	14.7%	12.4%	NA	6.4%	20.4%	1.4%	4.1%		
				MARV	120	NA	120	NA	50	50	NA	NA	NA	NA	4.6	70	70
Apr-13	145EX	NP-NW	09-10-12	Mean	229	73	231	76	97	95	NA	633	1.34	0.13	7.8	Not Tested	Not Tested
				COV (%)	6.0%	NA	8.9%	NA	6.4%	11.0%	NA	4.9%	10.7%	7.6%	2.3%	NA	NA
				MARV	140	NA	140	NA	60	60	NA	360	1.50	0.21	5.5 ave	70	70
Apr-13	GTF200	SF-W	09-10-13	Mean	224	28	261	24	97	117	NA	908	0.23	0.36	5.0	Not Tested	Not Tested
				COV (%)	7.3%	NA	4.4%	NA	5.3%	7.9%	NA	2.2%	34.0%	14.0%	1.2%	NA	NA
				MARV	200	NA	200	NA	75	75	NA	700	0.08	0.42	5.0 ave	80	80

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Thrace-LINQ**

Contact Info: Mr. Daniel Selander
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Apr-13	335EX	NP-NW	09-10-14	Mean	371	73	407	87	155	182	NA	1178	0.71	0.10	14.2	Not Tested	Not Tested
				COV (%)	7.6%	NA	8.4%	NA	8.5%	6.9%	NA	4.0%	12.8%	2.9%	1.9%	NA	NA
				MARV	205	NA	205	NA	80	80	NA	535	0.7	0.15	15.0	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **TNS Advanced Technologies**
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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Jan-13	R035	NP-NW	09-10-03	Mean	102	110	127	133	50	70	NA	298	2.32	0.20	4.8	101	101
				COV (%)	10.0%	NA	13.6%	NA	23.8%	16.4%	NA	16.1%	7.7%	5.1%	2.5%	NA	NA
				MARV	90	NA	90	NA	40	40	NA	NA	2.20	0.30	NA	70	70
Jan-13	R060	NP-NW	09-10-04	Mean	169	108	194	109	89	132	NA	450	1.83	0.15	6.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	13.0%	NA	15.6%	22.6%	NA	14.5%	8.4%	0.7%	2.5%	NA	NA
				MARV	160	NA	160	NA	65	65	NA	NA	1.60	0.212	NA	70	70
Jan-13	R070	NP-NW	09-10-05	Mean	194	103	221	118	101	152	NA	529	1.56	0.15	8.0	Not Tested	Not Tested
				COV (%)	13.2%	NA	11.4%	NA	10.8%	22.8%	NA	10.8%	7.1%	0.7%	5.8%	NA	NA
				MARV	180	NA	180	NA	75	75	NA	NA	1.50	0.212	NA	70	70
Jan-13	R080	NP-NW	09-10-06	Mean	212	100	265	110	99	169	NA	597	1.55	0.14	7.6	Not Tested	Not Tested
				COV (%)	8.7%	NA	12.2%	NA	19.3%	14.7%	NA	8.4%	13.6%	6.9%	5.5%	NA	NA
				MARV	205	NA	205	NA	85	85	NA	NA	1.40	0.18	NA	70	70

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **US Fabrics**

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Phone: Fax: Email: dan@usfabricsinc.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	US 230	MF-W	07-04-28	Mean	400	24	358	24	257	435	NA	1114	0.98	0.42	8.3		
				COV (%)	10.3%		7.3%		8.6%	12.4%		8.3%	3.1%	0.0%	0.6%		
				MARV													
Sep-12	US 90NW	NP-NW	2010-02-006	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Apr-13	US 115NW	NP-NW	2010-02-007	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	**Pending**	**Pending**
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	**NA**	**NA**
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70
Sep-12	US 120NW	NP-NW	2010-02-008	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70
Sep-12	US 180NW	NP-NW	2010-02-009	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	US 205NW	NP-NW	2010-02-010	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.3%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Sep-11	US 270NW	NP-NW	2010-02-011	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													
Sep-12	US 200	SF-W	2010-02-012	Mean	207	23	216	20	97	104	NA	805	0.11	0.13	4.3	83	64
				COV (%)	3.4%	NA	3.9%	NA	6.1%	3.8%	NA	4.0%	45.6%	6.4%	0.7%		
				MARV	200	NA	200	NA	75	75	NA	450	0.05	0.3	4.0	70	70
Apr-13	US 315	SF-W	2010-02-013	Mean	372	33	379	22	165	128	NA	1472	0.16	0.19	6.8	Not tested	Not Tested
				COV (%)	5.1%	NA	3.5%	NA	9.3%	4.5%	NA	1.6%	27.9%	15.5%	1.5%	NA	NA
				MARV	315	NA	315	NA	120	120	NA	1000	0.05	0.43	6.3	70	70
Sep-11	US 670	MF-W	2010-02-014	Mean	446	27	275	26	183	100	NA	860	0.45	0.17	6		
				COV (%)	2.7%		5.1%		5.5%	9.0%		16.9%	40.0%	11.8%	1.0%		
				MARV													
Sep-11	US 300NW	NP-NW	2010-02-015	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Sep-11	US 90P	NP-NW	2010-02-016	Mean	114	48	103	71	49	54	NA	318	1.37	0.15	4		
				COV (%)	11.4%		14.6%		16.3%	11.1%		13.8%	23.4%	6.7%	4.0%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **US Fabrics**

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	US 100P	NP-NW	2010-02-017	Mean	146	49	122	71	53	59	NA	346	1.16	0.14	4.6		
				COV (%)	12.3%		14.8%		13.2%	10.2%		15.6%	25.9%	0.0%	3.3%		
				MARV													
Sep-11	US 100	SF-W	2010-02-018	Mean	243	24	313	33	144	91	NA	718	2.79	0.76	5.8		
				COV (%)	6.6%		5.1%		9.7%	6.6%		15.5%	6.1%	10.5%	1.4%		
				MARV													
Sep-11	US 250	SF-W	2010-02-019	Mean	318	26	288	22	132	113	NA	1025	0.17	0.26	5.8		
				COV (%)	2.8%		3.1%		6.8%	5.3%		4.8%	5.9%	15.4%	0.5%		
				MARV													
Sep-11	US 1540	MF-W	2010-02-020	Mean	374	36	201	22	117	48	NA	639	1.89	0.39	5.7		
				COV (%)	4.5%		5.0%		4.3%	10.4%		3.3%	3.2%	30.8%	1.2%		
				MARV													
Sep-11	US 380NW	NP-NW	2010-02-021	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													
Apr-13	US 80NW	NP-NW	2010-02-022	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	**Pending**	**Pending**
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	**NA**	**NA**
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70
Sep-12	US 160NW	NP-NW	2010-02-023	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Vantage Partners, LLC**
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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	PRM-1	SF-W	07-06-02	Mean	143	20	146	22	71	70	NA	449	0.15	0.34	3.05		
				COV (%)	9.1%		12.3%		7.0%	5.7%		3.3%	40.0%	14.7%	2.0%		
				MARV													
Jul-11	PRM-1A	SF-W	07-06-03	Mean	153	22	147	22	73	71	NA	516	0.22	0.36	3.2		
				COV (%)	13.1%		10.9%		4.1%	5.6%		5.0%	40.9%	16.7%	1.3%		
				MARV													
Jul-11	PRM-2A	SF-W	07-06-04	Mean	238	22	253	25	104	114	NA	802	0.07	0.24	4.38		
				COV (%)	8.0%		11.1%		5.8%	6.1%		3.4%	71.4%	20.8%	2.1%		
				MARV													
Jul-11	PRM-3A	SF-W	07-06-05	Mean	310	22	337	23	118	134	NA	990	0.17	0.33	5.61		
				COV (%)	6.8%		4.2%		10.2%	6.7%		2.9%	23.5%	15.2%	1.1%		
				MARV													
Jul-11	PRM-3B	SF-W	07-06-06	Mean	299	22	324	24	121	137	NA	982	0.09	0.26	5.29		
				COV (%)	6.7%		5.2%		10.7%	7.3%		4.7%	77.8%	3.8%	0.6%		
				MARV													
Jul-11	PRM-4A	SF-W	07-06-07	Mean	302	24	343	23	131	138	NA	981	0.12	0.22	5.38		
				COV (%)	6.0%		5.2%		6.9%	5.1%		2.0%	25.0%	9.1%	0.6%		
				MARV													
Jul-11	SF-2	SF-W	07-09-34	Mean	84	21	87	26	53	57	NA	221	0.2	0.47	1.8		
				COV (%)	8.3%		10.3%		11.3%	8.8%		5.0%	10.0%	14.9%	1.1%		
				MARV													
Jul-11	SF-3	SF-W	07-09-35	Mean	115	21	99	23	68	54	NA	281	0.15	0.42	2.1		
				COV (%)	5.2%		8.1%		14.7%	7.4%		3.6%	26.7%	4.8%	1.9%		
				MARV													
Feb-12	SF-4	SF-W	09-01-01	Mean	101	21	104	20	51	49	NA	310	0.26	0.5	2.4	Not Tested	Not Tested
				COV (%)	5.9%		11.5%		7.8%	6.1%		5.8%	23.1%	14.0%	0.4%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Western Excelsior**
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Note: MARV's based on submission information

					Grab				Trapezoidal Tear		Puncture Index	50 mm Puncture	Permittivity	Opening Size	Mass/Area	UV Stability	
					ASTM D4632				ASTM D4533		ASTM D4833	ASTM D6241	ASTM D4491	ASTM D4751	ASTM D5261	ASTM D4355	
					MD		XD		Strength (lbs)							Strength Retained after 500 hrs (%)	
Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Strength (lbs)	Strain (%)	Strength (lbs)	Strain (%)	MD	XD	Strength (lbs)	Strength (lbs)	1/sec.	mm	oz/yd^2	MD	XD
Sep-11	Excel 250W	SF-W	08-01-44	Mean	318	26	288	22	132	113	NA	1025	0.17	0.26	5.8		
				COV (%)	2.8%		3.1%		6.8%	5.3%		4.8%	5.9%	15.4%	0.5%		
				MARV													
Sep-12	Excel 3.5N	NP-NW	09-07-27	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Sep-12	Excel 4.0N	NP-NW	09-07-28	Mean	129	122	124	55	84	60	NA	334	2.08	0.22	4.2	Not Tested	Not Tested
				COV (%)	15.4%	NA	13.8%	NA	16.4%	15.3%	NA	17.7%	14.9%	13.4%	5.9%		
				MARV	100	NA	100	NA	50	50	NA	325	2.0	0.212	4.0	70	70
Sep-12	Excel 4.5N	NP-NW	09-07-29	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70
Sep-12	Excel 6.0N	NP-NW	09-07-30	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		
Sep-12	Excel 7.0N	NP-NW	09-07-31	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	Excel 8.0N	NP-NW	09-07-32	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.6%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Sep-12	Excel 200W	SF-W	09-07-33	Mean	207	23	216	20	97	104	NA	805	0.11	0.13	4.3	Pending	Pending
				COV (%)	3.4%	NA	3.9%	NA	6.1%	3.8%	NA	4.0%	45.6%	6.4%	0.7%		
				MARV	200	NA	200	NA	75	75	NA	450	0.05	0.3	4.0	70	70
Apr-13	Excel 370M	MF-W	2010-01-006	Mean	471	42	334	40	195	107	NA	1079	0.98	0.25	6.4	Pending	Pending
				COV (%)	3.7%	NA	4.0%	NA	7.2%	12.6%	NA	3.1%	4.7%	11.8%	0.3%	NA	NA
				MARV	370	NA	250	NA	100	60	NA	NA	0.28	0.21	5.6 ave	90	90
Apr-13	Excel 3.0N	NP-NW	2010-01-007	Mean	86	62	101	87	45	56	NA	296	3.25	0.25	3.2	Pending	Pending
				COV (%)	13.0%	NA	15.1%	NA	9.8%	27.7%	NA	12.1%	9.1%	11.8%	7.7%	NA	NA
				MARV	80	NA	80	NA	30	30	NA	175	2.20	0.30	3.1 ave	70	70
Apr-13	Excel 315W	SF-W	2010-01-008	Mean	372	33	379	22	165	128	NA	1472	0.16	0.19	6.8	Not tested	Not Tested
				COV (%)	5.1%	NA	3.5%	NA	9.3%	4.5%	NA	1.6%	27.9%	15.5%	1.5%	NA	NA
				MARV	315	NA	315	NA	120	120	NA	1000	0.05	0.43	6.3	70	70
Sep-11	Excel 10.0N	NP-NW	2010-01-009	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

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Phone:(866) 540-9810 Fax: (812) 867-8928 Email: lsnyder@dfs.us.com

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	Excel 12.0N	NP-NW	2010-01-010	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Sep-11	Excel 16.0N	NP-NW	2010-01-011	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Willacoochee Industries Fabrics**
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Phone:(912) 534-5757 Fax: Email: larrylbooth@windstream.net

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Jul-11	3200	SF-W	07-04-26	Mean	107	22	136	20	61	70	NA	492	0.11	0.31	3.1		
				COV (%)	4.7%		6.6%		9.8%	10.0%		2.8%	18.2%	16.1%	1.3%		
				MARV													
Jul-11	1210	SF-W	07-04-27	Mean	113	21	116	14	72	51	NA	500	0.21	0.45	3.4		
				COV (%)	8.0%		8.6%		13.9%	7.8%		3.2%	23.8%	15.6%	0.3%		
				MARV													
Sep-11	1211	SF-W	08-01-22	Mean	152	21	140	13	68	69	NA	559	0.16	0.26	3.7		
				COV (%)	6.6%		6.4%		11.8%	5.8%		4.5%	25.0%	26.9%	0.8%		
				MARV													
Sep-11	100SF	SF-W	08-01-23	Mean	158	16	84	25	73	49	NA	372	0.26	0.33	2.6		
				COV (%)	8.9%		21.4%		6.8%	22.4%		5.6%	42.3%	9.1%	1.9%		
				MARV													
Sep-11	105SF	SF-W	08-01-24	Mean	163	23	143	15	68	67	NA	573	0.22	0.3	3.5		
				COV (%)	3.7%		5.6%		5.9%	4.5%		2.6%	22.7%	16.7%	1.4%		
				MARV													
Sep-11	200W	SF-W	08-01-25	Mean	237	23	250	18	105	92		819	0.15	0.28	5.2		
				COV (%)	7.6%		3.2%		4.8%	6.5%		3.4%	26.7%	17.9%	0.6%		
				MARV													
Sep-11	315W	SF-W	08-01-26	Mean	358	27	390	15	145	114		1230	0.13	0.19	8.2		
				COV (%)	4.7%		1.3%		9.0%	7.0%		1.4%	38.5%	42.1%	0.9%		
				MARV													
Sep-11	77SF	SF-W	08-01-29	Mean	101	19	115	15	63	55		1148	0.21	0.57	3.2		
				COV (%)	8.9%		3.5%		12.7%	9.1%		1.7%	19.0%	14.0%	0.6%		
				MARV													
Sep-11	WINfab 250W	SF-W	08-01-45	Mean	318	26	288	22	132	113	NA	1025	0.17	0.26	5.8		
				COV (%)	2.8%		3.1%		6.8%	5.3%		4.8%	5.9%	15.4%	0.5%		
				MARV													
Sep-11	WINfab 300NP	NP-NW	08-01-46	Mean	114	48	103	71	49	54	NA	318	1.37	0.15	4		
				COV (%)	11.4%		14.6%		16.3%	11.1%		13.8%	23.4%	6.7%	4.0%		
				MARV													
Sep-11	WINfab 400NP	NP-NW	08-01-47	Mean	146	49	122	71	53	59	NA	346	1.16	0.14	4.6		
				COV (%)	12.3%		14.8%		13.2%	10.2%		15.6%	25.9%	0.0%	3.3%		
				MARV													
Sep-11	WINfab 1000N	NP-NW	08-01-48	Mean	315	66	266	90	115	139	NA	728	0.84	0.13	9.9		
				COV (%)	7.6%		8.6%		11.3%	11.5%		6.6%	16.7%	7.7%	4.8%		
				MARV													

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

Manufacturer: **Willacoochee Industries Fabrics**
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Phone:(912) 534-5757 Fax: Email: larrylbooth@windstream.net

Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-11	WINfab 1200N	NP-NW	08-01-49	Mean	340	73	327	92	151	134	NA	875	1.03	0.13	11.3		
				COV (%)	9.1%		4.0%		10.6%	6.0%		4.9%	4.9%	15.4%	4.0%		
				MARV													
Sep-11	WINfab 1600N	NP-NW	08-01-50	Mean	547	76	546	99	216	265	NA	1356	0.61	0.12	16.9		
				COV (%)	6.8%		11.4%		11.6%	4.9%		3.7%	13.1%	0.0%	3.9%		
				MARV													
Sep-11	2x2HF	C-W	08-04-14	Mean	433	25	378	19	205	146		1422	0.61	0.39	7.82		
				COV (%)	8.8%		3.2%		7.8%	5.5%		4.4%	11.5%	5.1%	0.8%		
				MARV													
Sep-11	4x4HF	C-W	08-04-15	Mean	469	19	402	16	411	391		834	0.79	0.6	13.6		
				COV (%)	10.0%		11.7%		32.4%	9.7%		16.4%	8.9%	3.3%	0.7%		
				MARV													
Sep-11	4x4	SF-W	08-04-16	Mean	705	32	575	22	373	249		2055	0.3	0.25	14.4		
				COV (%)	5.2%		3.7%		7.2%	8.4%		4.5%	6.7%	8.0%	0.0%		
				MARV													
Sep-11	4x6	SF-W	08-04-17	Mean	617	25	582	17	349	707		1062	0.34	0.34	16.3		
				COV (%)	5.0%		8.1%		13.2%	29.4%		21.9%	14.7%	11.8%	1.0%		
				MARV													
Nov-11	2199	MF-W	08-09-02	Mean	435	42	289	24	157	83		799	1.11	0.21	6.8		
				COV (%)	7.1%		3.8%		15.3%	6.0%		4.0%	4.5%	0.0%	1.0%		
				MARV													
Nov-11	2198	MF-W	08-09-03	Mean	374	43	329	27	177	128		718	2.35	0.43	6.7		
				COV (%)	3.2%		5.5%		7.3%	6.3%		18.8%	2.6%	4.7%	2.1%		
				MARV													
Sep-12	WINfab 350N	NP-NW	09-07-43	Mean	95	60	111	86	55	70	NA	321	2.14	0.18	3.6	Not Tested	Not Tested
				COV (%)	14.7%	NA	10.8%	NA	9.6%	13.7%	NA	14.4%	20.3%	11.6%	19.4%		
				MARV	90	NA	90	NA	40	40	NA	300	2.2	0.30	3.5	70	70
Sep-12	WINfab 400N	NP-NW	09-07-44	Mean	129	122	124	55	84	60	NA	334	2.08	0.22	4.2	Not Tested	Not Tested
				COV (%)	15.4%	NA	13.8%	NA	16.4%	15.3%	NA	17.7%	14.9%	13.4%	5.9%		
				MARV	100	NA	100	NA	50	50	NA	325	2.0	0.212	4.0	70	70
Sep-12	WINfab 450N	NP-NW	09-07-45	Mean	135	58	123	78	58	65	NA	406	1.72	0.15	4.4	Not Tested	Not Tested
				COV (%)	9.6%	NA	7.0%	NA	25.3%	12.1%	NA	10.6%	10.9%	1.8%	8.2%		
				MARV	120	NA	120	NA	50	50	NA	350	1.8	0.212	4.2	70	70
Sep-12	WINfab 600N	NP-NW	09-07-46	Mean	196	69	195	80	98	96	NA	511	1.83	0.15	6.0	Not Tested	Not Tested
				COV (%)	16.0%	NA	9.6%	NA	13.3%	9.2%	NA	6.6%	19.5%	0.3%	9.0%		
				MARV	160	NA	160	NA	65	65	NA	450	1.6	0.212	6.0		

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

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Note: MARV's based on submission information

Drop Date	Style	Structure	NTPEP No. GTX-	Statistic	Grab ASTM D4632 MD Strength (lbs)	Grab ASTM D4632 MD Strain (%)	Grab ASTM D4632 XD Strength (lbs)	Grab ASTM D4632 XD Strain (%)	Trapezoidal Tear ASTM D4533 Strength (lbs) MD	Trapezoidal Tear ASTM D4533 Strength (lbs) XD	Puncture Index ASTM D4833 Strength (lbs)	50 mm Puncture ASTM D6241 Strength (lbs)	Permittivity ASTM D4491 1/sec.	Opening Size ASTM D4751 mm	Mass/Area ASTM D5261 oz/yd^2	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) MD	UV Stability ASTM D4355 Strength Retained after 500 hrs (%) XD
Sep-12	WINfab 700N	NP-NW	09-07-47	Mean	224	76	232	92	121	141	NA	638	1.31	0.13	7.3	Not Tested	Not Tested
				COV (%)	6.2%	NA	8.1%	NA	21.4%	10.6%	NA	6.6%	4.7%	2.8%	8.7%		
				MARV	180	NA	180	NA	75	75	NA	525	1.5	0.212	7.0	70	70
Sep-12	WINfab 800N	NP-NW	09-07-48	Mean	259	76	237	89	122	146	NA	747	1.02	0.11	7.7	Not Tested	Not Tested
				COV (%)	10.4%	NA	7.8%	NA	7.3%	20.3%	NA	5.2%	7.7%	8.4%	7.3%		
				MARV	205	NA	205	NA	85	85	NA	650	1.4	0.180	8.0	70	70
Jan-13	WinFab 2119	C-W	09-10-07	Mean	500	42	506	19	222	184	NA	1642	0.16	0.17	9.4	Not Tested	Not Tested
				COV (%)	6.7%	NA	3.3%	NA	9.1%	11.1%	NA	4.7%	43.4%	5.8%	0.3%	NA	NA
				MARV	350	NA	250	NA	100	100	NA	NA	0.28	0.21	NA	90	90
Jan-13	2098	MF-W	09-10-08	Mean	351	38	208	24	199	83	NA	759	3.17	0.42	5.6	Not Tested	Not Tested
				COV (%)	5.2%	NA	4.3%	NA	9.8%	8.3%	NA	2.6%	3.1%	0.5%	0.5%	NA	NA
				MARV	350	NA	200	NA	65	65	NA	NA	0.50	0.43	NA	80	80
Jan-13	1216	C-W	09-10-09	Mean	173	19	118	20	79	72	NA	564	1.75	0.46	3.5	Pending	Pending
				COV (%)	5.2%	NA	9.1%	NA	8.6%	6.4%	NA	4.1%	7.4%	8.8%	0.9%	NA	NA
				MARV	150	NA	110	NA	60	60	NA	NA	1.00	0.60	NA	80	80

Legend: SF = Slit film; MF = Monofilament; C = Combination; HB = Heatbonded; NP = Needlepunched; W = Woven; NW = Nonwoven; MD = Machine Direction; XD = Cross Machine Direction; COV = Coefficient of Variance; MARV = Minimum Average Roll Value

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-- Rick Smutzer, former NTPEP Chairman (Chief Engineer, Indiana DOT)

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