

VIRGINIA DEPARTMENT OF TRANSPORTATION

MATERIALS DIVISION

MEMORANDUM

GENERAL SUBJECT: Acceptance of Geosynthetics	NUMBER: MD 391-15
SPECIFIC SUBJECT: Revision to VDOT Manual of Instructions Section 204.20(f) on how VDOT accepts geosynthetics	DATE: Nov 2, 2015
	SUPERSEDES:
APPROVED:	Charles A. Babish, PE State Materials Engineer Approved: _____

EFFECTIVE DATE

- This memorandum is effective starting with contracts advertised in November 2015, in conjunction with revisions to VDOT Road and Bridge Specification 245.
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PURPOSE/NEED/SCOPE/REQUIREMENTS

- This Memorandum notifies the users of the VDOT's Materials Division Manual of Instructions (MOI) that Section 204.20(f) is being revised. VDOT is changing the way it accepts geosynthetics in order to make use of the AASHTO National Transportation Product Evaluation Program (NTPEP) audit and evaluation programs for geosynthetics.
- VDOT uses the AASHTO National Transportation Product Evaluation Program (NTPEP) as the basis of quality assurance of geosynthetics, and populates approved lists for geosynthetics based on the geosynthetics meeting the requirements of the revised Road and Bridge Specification 245 and where applicable the requirements of Standard Special Provisions (Pavement Interlayer Reinforcement; Prefabricated Vertical Drains).
- VDOT's use of the NTPEP audits and product testing along with our own approved list requirements satisfies all elements of a quality assurance program for geosynthetics. Manufacturer quality control data is provided to NTPEP and VDOT and used in acceptance as NTPEP provides Independent Assurance (IA) testing to check equipment and procedures, Verification Sampling and Testing (VST) to validate results of manufacturer quality control tests, and inspection of quality requirements through the audit program. VDOT also reserves the right to perform IA, VST, and inspection at any time. NTPEP or VDOT IA, VST, or inspection results may be used to remove a product from a project, or to remove a product or facility from an approved list.

PROCEDURES

The existing Section 204.20(f) is deleted and replaced with the following:

- **SECTION 204.20(f) Geosynthetics**

(f) Geosynthetics

This section covers geosynthetics used in: silt fence, riprap bedding, drainage fabric, subgrade and embankment stabilization, geocomposite pavement underdrains and wall drains, dewatering bags, pavement interlayer reinforcement, prefabricated vertical drains; and high strength geotextiles and geogrids that require project-specific design and are used in reinforced slopes, base reinforcement, and MSE wall applications.

Geosynthetics approved for use on VDOT projects can be found on the following approved lists:

- Approved List #37 Wall Drains
- Approved List #39 Prefabricated Vertical Drains
- Approved List #60 Dewatering Bags
- Approved List #63 Geosynthetics
- Approved List #64 Geomembrane Moisture Barriers, and Low Permeability Liners (Hydraulic Barriers) for use in Stormwater Retention

- Approved List #37 – Suppliers submit their products, which must meet the VDOT Road and Bridge Specification 245, and the fabric must be current in the NTPEP 3-year product evaluation testing.
- Approved List #39 – Suppliers submit their products, which must meet the material requirements of the VDOT Standard Special Provision for Prefabricated Vertical Drains, and the fabric must be current in the NTPEP 3-year product evaluation testing.
- Approved List #60 – Suppliers submit their products, which must meet the VDOT Road and Bridge Specification 245, and the fabric must be current in the NTPEP 3-year product evaluation testing.
- Approved List #63 - A product and its manufacturer and supplier are placed on the approved list upon request of the manufacturer or supplier. The geosynthetic must meet VDOT's specification or standard special provision requirements and be current in the NTPEP 3-year product evaluation testing. The manufacturer must be compliant in the NTPEP audit program, and the local supplier must be annually reviewed by VDOT and thereby listed on VDOT Approved List 44 or be audited by NTPEP.
- Approved List #64 - Suppliers submit their products, which must meet the VDOT Road and Bridge Specification 245, and the fabric must be current in the NTPEP 3-year product evaluation testing.

The AASHTO M288 fabrics on Approved List #63 and manufacturers fall under the GTX Work Plan of the Geosynthetics Committee of NTPEP, the high strength geosynthetics and geogrids fall under the Reinforcing Geosynthetics (REGEO) work plan of the Geosynthetics Committee.

Additionally silt fence must meet the slurry test requirements of the work plan of the Erosion Control Products Committee of NTPEP, pavement interlayer reinforcement must have independent melting point testing done, and these results provided to VDOT.

NOTES

- Previously, VDOT accepted geosynthetics by testing them and issuing a GF # per suppliers' lot of material. Under the revised acceptance program, VDOT is no longer testing these materials or issuing GF numbers, but is accepting geosynthetics listed on Approved List #63. To assist suppliers in working down inventory tested and approved under the former method, VDOT will continue to accept geosynthetics with GF numbers through July 1, 2016. For projects advertised under the former set of specifications and acceptance procedures, it is encouraged to use no-cost work orders or other documented agreements on VDOT projects to allow the acceptance of geosynthetics from Approved List #63.
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REFERENCES

- The point of contact for any questions regarding this memorandum is John Schuler, PE, VDOT Materials Soils Laboratory Program Manager, 804.328.3140, john.schuler@vdot.virginia.gov.
 - VDOT Road and Bridge Specification 245.
 - VDOT Approved Lists 37, 39, 44, 60, 63, 64.
 - VDOT Special Provision for Pavement Interlayer, Special Provision for Prefabricated Vertical Drains
 - AASTHO Standard Specification M288 Geotextile Specification for Highway Applications
 - AASHTO NTPEP Geosynthetics Committee Work Plan, REGEO Work Plan; Erosion Control Products Committee Work Plan
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VDOT Geosynthetics Users Group

(63) Geosynthetics (Soils Lab)

November 2, 2015

This list is comprised first of the AASHTO M288 Geotextiles, and then of specialty high-strength geotextiles and geogrids.

AASHTO M288 Geotextiles

Products under this AASHTO M288 portion of the approved list meet VDOT Road and Bridge Specification 245 and are evaluated through AASHTO’s National Transportation Product Evaluation Program (NTPEP).

To be on this list the product must have current cycle test results listed in NTPEP’s DataMine that meet the VDOT Specification requirements, the manufacturer (or private labeler) must be listed as compliant in the NTPEP Geosynthetics audit program, and the local supplier must be currently qualified by VDOT’s Materials QA Section. For products for which VDOT requires additional tests over those included in the NTPEP evaluation, the additional required tests are listed in each category and must be done by a 3rd party laboratory that is accredited by The Geosynthetics Research Institute (GRI-LAP) in the specific test and also accredited by an acceptable body for quality processes.

Temporary Silt Fence Fabric*
Fabric for Type A and Type B Silt Fence

Product	Expiration Date	Vendor & Facility Location
Winfab V10	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
Winfab V10	Jan 1, 2019	Chesterfield Trading (Richmond)
Beltech 806	Jan 1, 2018	Colonial Construction Materials (Oilville)

*Additional test results for silt fence fabric per ASTM D5141-11 required every 3 years along with NTPEP product evaluation, run in triplicate as per NTPEP Erosion Control Products Committee Work Plan, to obtain flow rate and filtering efficiency.

Riprap Bedding Fabric (Separation Fabric)

Product	Expiration Date	Vendor & Facility Location
S250N	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
Winfab 250W	Jan 1, 2018	Chesterfield Trading (Richmond)
Beltech 250	Jan 1, 2017	Colonial Construction Materials (Oilville)
R060	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate FW402	Jan 1, 2016	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate FW403	Jan 1, 2017	
Tencate FW404	Jan 1, 2016	
Tencate FW500	Jan 1, 2017	
Tencate FW700	Jan 1, 2016	
Tencate 600X	Jan 1, 2018	
Tencate 160N	Jan 1, 2018	
Tencate FW402	Jan 1, 2016	Form Services (Baltimore, MD)
Tencate FW403	Jan 1, 2017	
Tencate FW404	Jan 1, 2016	
Tencate FW500	Jan 1, 2017	
Tencate FW700	Jan 1, 2016	
Tencate 600X	Jan 1, 2018	
Tencate 160N	Jan 1, 2018	
Winfab 250W	Jan 1, 2018	GeoProducts (Kilmarnock)
TerraTex N06	Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
TerraTex N07	Jan 1, 2017	
TerraTex N08	Jan 1, 2017	
TerraTex GS-250	Jan 1, 2017	
Tencate FW402	Jan 1, 2016	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
Tencate FW403	Jan 1, 2017	
Tencate FW404	Jan 1, 2016	
Tencate FW500	Jan 1, 2017	
Tencate FW700	Jan 1, 2016	
Tencate 600X	Jan 1, 2018	
Tencate 160N	Jan 1, 2018	
Winfab 250W	Jan 1, 2018	

Winfab 315W	Jan 1, 2018	
MACTEX N47.1	Jan 1, 2019	Maccaferri (Williamsport, MD)
MACTEX N44.1	Jan 1, 2019	
MACTEX N35.1	Jan 1, 2019	
Winfab 2404	Jan 1, 2019	Willacoochee (Willacoochee, GA)
Winfab 600N	Jan 1, 2017	
Winfab 700N	Jan 1, 2017	
Winfab 250W	Jan 1, 2018	
Winfab 315W	Jan 1, 2018	

Drainage Fabric

Product	Expiration Date	Vendor & Facility Location
N045N	Jan 1, 2015	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
TerraTex N04.5	Jan 1, 2017	Chesterfield Trading (Richmond)
Dalco 1045	Jan 1, 2017	Colonial Construction Materials (Oilville)
R042	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 140N	Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 170N	Jan 1, 2018	
Tencate 1100NPA	Jan 1, 2016	
Tencate 140N	Jan 1, 2018	Form Services (Baltimore, MD)
Tencate 170N	Jan 1, 2018	
Tencate 1100NPA	Jan 1, 2016	
Winfab 450N	Jan 1, 2017	GeoProducts (Kilmarnock, VA)
TerraTex N04.5	Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
TerraTex N06	Jan 1, 2017	
TerraTex N07	Jan 1, 2017	
TerraTex N08	Jan 1, 2017	
Tencate 140N	Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
Tencate 170N	Jan 1, 2018	
Tencate 1100NPA	Jan 1, 2016	
Winfab 450N	Jan 1, 2017	
MACTEX N47.1	Jan 1, 2019	Maccaferri (Williamsport, MD)
MACTEX N44.1	Jan 1, 2019	
MACTEX N35.1	Jan 1, 2019	
MACTEX N21.1	Jan 1, 2019	
Winfab 600N	Jan 1, 2017	Willacoochee (Willacoochee, GA)
Winfab 700N	Jan 1, 2017	
Winfab 800N	Jan 1, 2017	

Subgrade Stabilization Fabric

Product	Expiration Date	Vendor & Facility Location
Winfab 200W S200N	Jan 1, 2018 Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
TerraTex GS Winfab 200W	Jan 1, 2017 Jan 1, 2018	Chesterfield Trading (Richmond)
Beltech 250		Colonial Construction Materials (Oilville)
R042	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N	Jan 1, 2017 Jan 1, 2016 Jan 1, 2016 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N	Jan 1, 2017 Jan 1, 2016 Jan 1, 2016 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 200W	Jan 1, 2018	GeoProducts (Kilmarnock)
TerraTex GS TerraTex GS-180 TerraTex GS-250 TerraTex HD TerraTex HPG-500	Jan 1, 2017 Jan 1, 2018 Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston- Salem, NC)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N Winfab W200 Winfab 250W Winfab 315W	Jan 1, 2017 Jan 1, 2016 Jan 1, 2016 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
MACTEX W1 315 MACTEX W1 250 MACTEX W1 200 MACTEX N47.1 MACTEX N44.1 MACTEX N35.1 MACTEX N21.1	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 200W Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Willacoochee (Willacoochee, GA)

Embankment Stabilization Fabric (for embankments up to 6 feet high)*

Product	Expiration Date	Vendor & Facility Location
Winfab 250W S300N	Jan 1, 2018 Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
TerraTex HD	Jan 1, 2017	Chesterfield Trading (Richmond)
Beltech 315	Jan 1, 2017	Colonial Construction Materials (Oilville)
R080	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 600X Tencate HP370 Tencate 180N	Jan 1, 2018 Jan 1, 2016 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 600X Tencate HP370 Tencate 180N	Jan 1, 2018 Jan 1, 2016 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2018	GeoProducts (Kilmarnock)
TerraTex HD TerraTex HPG-500	Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston- Salem, NC)
Tencate 600X Tencate HP370 Tencate 180N Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2016 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
MACTEX W1 315 MACTEX N47.1	Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 800N Winfab 2x2 HF	Jan 1, 2017 Jan 1, 2018	Willacoochee (Willacoochee, GA)

*Seam strength tests using ASTM D4632 also required per VDOT Road and Bridge Specification 245, to be provided by manufacturer or supplier or Contractor as required for project.

Pavement Interlayer to inhibit reflective cracking*

Product	Expiration Date	Man'f/Vendor & Facility Location
C040 (Type I Fabric)	Jan 1, 2017	Crown Resources (Toccoa, GA)
TerraTex OLI (Type I Fabric)	Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-

		Salem, NC)
Winfab 300NP (Type I Fabric)	Jan 1, 2018	Willacoochee (Willacoochee, GA)

*The NTPEP program does not test pavement fabric for melting point – these test results per ASTM D276 or ASTM E794 are required every 3 years along with NTPEP product evaluation. To make this list, the material must also meet the requirements of VDOT Road and Bridge Specification 245 and Special Provision for Pavement Interlayer, dated Sep 30, 2015.

High Strength Geotextiles and Geogrids

These products must be designed, specified, and approved on a project basis.