



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

1501 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1501

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GOVERNOR

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October 5, 2015

Aaron Smith
Application Technology Manager
Tensor International Corporation
2500 Northwinds Parkway
Suite 500
Alpharetta, GA 30009

Subject: Approval of Tensor Geogrids

Dear Mr. Smith:

The Materials and Tests Unit has reviewed the final submittal dated July 28, 2015 for Tensor geogrids in accordance with the “NCDOT Guidelines for the Geogrid Evaluation Program”. Based on this information, Tensor geogrids listed in the table below are approved for use on North Carolina Department of Transportation projects in accordance with the applicable contract and the following:

Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	T _{ult} (lb/ft)	T _{2%} (lb/ft)	T _{5%} (lb/ft)	J _{ave} (lb)	J (m-N/deg)	RF _{CR}			RF _D
								3-yr	75-yr	100-yr	
UX1400MSE/HS (MD)	HDPE	17.5	4,800					2.19	2.68	2.73	1.1
UX1500MSE/HS (MD)	HDPE	17.8	7,810					2.24	2.54	2.57	1.1
UX1600MSE/HS (MD)	HDPE	17.7	9,870					2.24	2.54	2.57	1.1
UX1700MSE/HS (MD)	HDPE	17.9	11,990					2.24	2.54	2.57	1.1

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1801 BLUE RIDGE ROAD
RALEIGH NC 27607

Geogrid and Direction (MD, CD)	Borrow ($\Phi = 30^\circ$)										
	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1400MSE/HS (MD)	1.1	2.41	3.24	3.30	1,992	1,481	1,455	0.6	0.346	0.8	24.79
UX1500MSE/HS (MD)	1.1	2.46	3.07	3.11	3,175	2,544	2,511	0.6	0.346	0.8	24.79
UX1600MSE/HS (MD)	1.1	2.46	3.07	3.11	4,012	3,215	3,174	0.6	0.346	0.8	24.79
UX1700MSE/HS (MD)	1.1	2.46	3.07	3.11	4,874	3,906	3,855	0.6	0.346	0.8	24.79
Geogrid and Direction (MD, CD)	Fine Aggregate ($\Phi = 34^\circ$)										
	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1400MSE/HS (MD)	1.18	2.58	3.48	3.54	1,860	1,379	1,356	0.75 0.6 ⁽¹⁾	0.506 0.405 ⁽¹⁾	0.8	28.35
UX1500MSE/HS (MD)	1.18	2.64	3.30	3.34	2,958	2,367	2,338	0.75	0.506	0.8	28.35
UX1600MSE/HS (MD)	1.18	2.64	3.30	3.34	3,739	2,991	2,955	0.75	0.506	0.8	28.35
UX1700MSE/HS (MD)	1.18	2.64	3.30	3.34	4,542	3,633	3,590	0.75	0.506	0.8	28.35
(1) UX1400 geogrid greater than 2 ft below top of wall											
Geogrid and Direction (MD, CD)	Coarse Aggregate ($\Phi = 38^\circ$)										
	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1400MSE/HS (MD)	1.70	3.72	5.01	5.11	1,290	958	939	0.8	0.625	0.8	32.0
UX1500MSE/HS (MD)	1.70	3.81	4.75	4.81	2,050	1,644	1,624	0.8	0.625	0.8	32.0
UX1600MSE/HS (MD)	1.60	3.58	4.47	4.52	2,757	2,208	2,184	0.8	0.625	0.8	32.0
UX1700MSE/HS (MD)	1.60	3.58	4.47	4.52	3,349	2,682	2,653	0.8	0.625	0.8	32.0

If you have any questions, please contact C. K. Su at (919) 329-4150 or Jack Cowsert at (919) 329-4000.

Sincerely,



Christopher A. Peoples, P.E.
State Materials Engineer

cc: John L. Pilipchuk, L.G., P.E., State Geotechnical Engineer