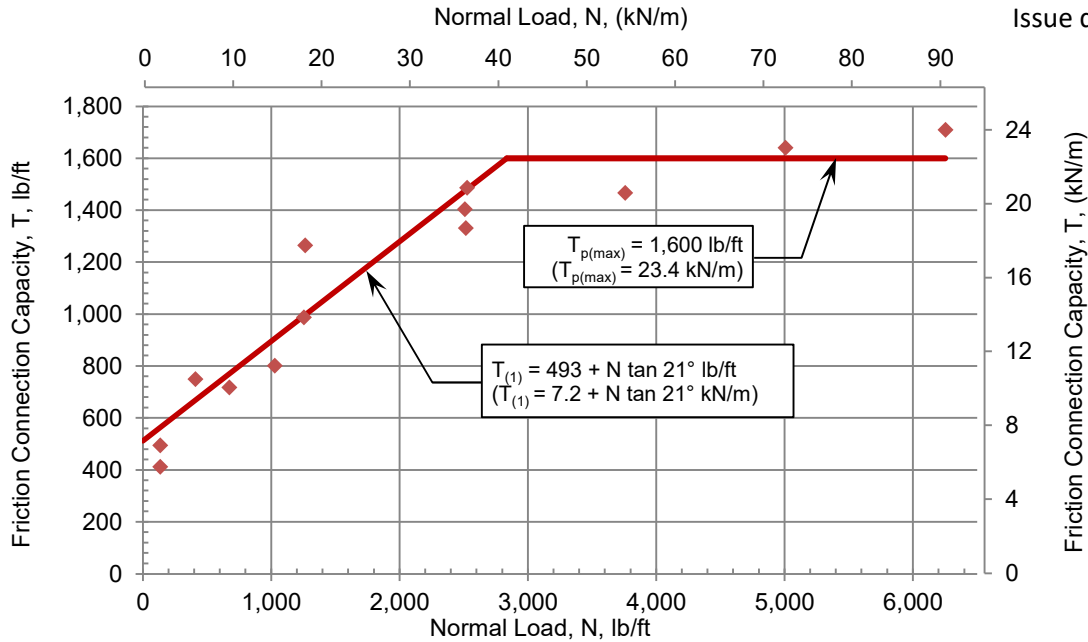


Test Method: ASTM D6638

Tested by: Aster Brands | 05/21 - 05/31, 2024

FRICTION CONNECTION STRENGTH - Miragrid 10XT

Issue date: 08/08/2024



Peak Friction Connection Envelope:^(a)

$$T_p = 493 \text{ lb/ft} + N \tan 21^\circ \leq 1,600 \text{ lb/ft}$$

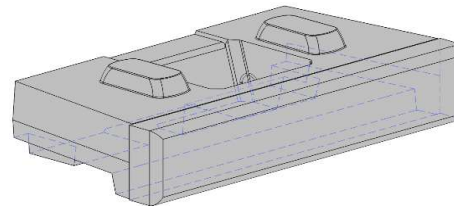
$$(T_p = 7.2 \text{ kN/m} + N \tan 21^\circ \leq 23.4 \text{ kN/m})$$

Inflection Point:

$$N = 2,835 \text{ lb/ft (41.4 kN/m)}$$

$$T = 1,600 \text{ lb/ft (23.4 kN/m)}$$

NW-R NOVUM WALL RETAINING BLOCK WITH MIRAFI MIRAGRID 10XT GEOGRID INCLUSION



(a) The equations for peak friction connection envelope using Miragrid 10XT geogrid represent the slope of the trend line of the raw data. Because the data points at larger normal loads showed some variability, a maximum friction connection capacity of 1,600 lb/ft (23.4 kN/m) was selected. No further adjustments have been made. Appropriate factors of safety for design should be added. Values should not be used for other geogrids without verification through full scale testing.

Friction Connection Strength Data

Test No.	Normal Load		Peak Tension		Observed Failure	Test No.	Normal Load		Peak Tension		Observed Failure
	lb/ft	kN/m	lb/ft	kN/m			lb/ft	kN/m	lb/ft	kN/m	
Mirafi 10XT											
1	136	2.0	496	7.2	Grid Pullout	8	6,254	91.3	1,710	25.0	Grid Rupture
2	1,266	18.5	1,266	18.5	Grid Rupture	9	5,008	73.1	1,642	24.0	Grid Rupture
3	2,527	36.9	1,488	21.7	Grid Rupture	10	2,510	36.6	1,405	20.5	Grid Rupture
4	409	6.0	751	11.0	Grid Pullout	11	136	2.0	413	6.0	Grid Pullout
5	674	9.8	718	10.5	Grid Pullout	12	1,029	15.0	802	11.7	Grid Pullout
6	3,758	54.8	1,468	21.4	Grid Rupture	13	1,256	18.3	988	14.4	Grid Pullout
7	2,517	36.7	1,332	19.4	Grid Rupture						

Geogrid material used for these tests was Solmax Mirafi Miragrid 10XT Lot # 20240120-1-1, which has a minimum average roll value of 10,200 lb/ft (148.9 kN/m) and an index strength of 11,634 lb/ft (169.8 kN/m), as reported by the manufacturer. Test data provided in this summary is detailed in the test report Novum Wall Friction Connection Strength 10XT Test Report available on the Novum Wall website www.novumwall.com.

The information contained in this report has been compiled by Aster Brands as a recommendation of peak friction connection envelope with Mirafi Miragrid 10XT geogrid inclusion. It is accurate to the best of our knowledge as of the date of its issue. However, final determination of the suitability of any design information and the appropriateness of this data for a given design purpose is the sole responsibility of the user. No warranty of performance is expressed or implied by the publishing of the foregoing laboratory test results.