

Terrafix THM-5800

High Modulus Woven

THM-5800 is a polypropylene geotextile woven with high tenacity yarns. This engineered geotextile is also stabilized to resist degradation due to ultraviolet exposure, commonly encountered soil chemicals, mildew, and insects; it is also non-biodegradable. THM-5800 is manufactured to meet the values listed in the following table:

Property	Guidance Document/Test Method	Unit	Design Value
Mr Improvement Factor ¹	AASHTO T-307	---	1.41
Initial Tensile Stiffness (0.5% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	96,000 (1,820)
Wide Width Tensile (2% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	1,820 (26.6)
Wide Width Tensile (2% Strain MD) ²	ASTM D-4595	lbs/ft (kN/m)	500 (7.3)
Wide Width Tensile (5% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	4,380 (63.9)
Wide Width Tensile (5% Strain MD) ²	ASTM D-4595	lbs/ft (kN/m)	1,480 (21.6)
Cyclic Tensile Modulus @ 2% Permanent Strain: J_{cyclic} MD	ASTM D-7556	lbs/ft (kN/m)	75,000 (1,094)
Cyclic Tensile Modulus @ 2% Permanent Strain: J_{cyclic} XMD	ASTM D-7556	lbs/ft (kN/m)	121,000 (1,766)
Interaction Coefficient ³	ASTM D-6706	--	0.92
Permittivity Under Load ⁴	ASTM D-5493	sec ⁻¹	0.8
Water Flow Rate Under Load ⁴	ASTM D-5493	gal/min/sf (l/min/sm)	60 (2,445)
Pore Size O_{95}	ASTM D-6767	microns	453
Pore Size O_{85}	ASTM D-6767	microns	403
Pore Size O_{60}	ASTM D-6767	microns	352
Pore Size O_{50}	ASTM D-6767	microns	328
Grab Tensile ²	ASTM D-4632	lbs (kN)	620 (2.76) x 500 (2.23)
Grab Elongation ²	ASTM D-4632	%	12 x 8
CBR Puncture ²	ASTM D-6241	lbs (kN)	2,000 (8.9)
Permittivity ^{2,6}	ASTM D-4491	sec ⁻¹	1.0
Water Flow Rate ^{2,6}	ASTM D-4491	gal/min/sf (l/min/sm)	81.8 (3,322.68)
AOS ^{5,6}	ASTM D-4751	US Std. Sieve (mm)	40 (0.425)
UV Resistance	ASTM D-4355	% strength retained	90% @ 500 hrs

¹Value determined from Composite Geosynthetic-Base Course Artificial Neural Network Model, TRB/NCHRP Project 01-50, "Quantifying the Influence of Geosynthetics on Pavement Performance" (2017), National Academy of Sciences catalog 24841, <http://nap.edu/24841>. Subgrade Mr improvement range 2.4 < CBR < 4.7 (4.6 < Mr < 6.9), 4-inch HMA (300ksi), 10-inch ABC (20ksi), Base Anisotropic Ratio = 0.35, Factor of Safety 1.25.

²Minimum average

³Soil-Geosynthetic Interaction Coefficient based on testing conducted by TRI Environmental, Austin, TX

⁴140psf normal load to simulate roadway compression of geotextile porosity, testing conducted by TRI Environmental, Austin, TX

⁵Maximum average

⁶At the time of manufacturing. Handling, storage, and shipping may change these properties



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