

TerraTex® THM-3800

High Performance Geotextile

THM-3800 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-3800 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	---	1.36
Initial Tensile Stiffness (0.5% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	92,000 (1,342)
Wide Width Tensile (2% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	1,040 (15.2)
Wide Width Tensile (2% Strain MD) ²	ASTM D-4595	lbs/ft (kN/m)	620 (9.05)
Wide Width Tensile (5% Strain XMD) ²	ASTM D-4595	lbs/ft (kN/m)	2,300 (33.57)
Wide Width Tensile (5% Strain MD) ²	ASTM D-4595	lbs/ft (kN/m)	1,850 (27.0)
Cyclic Tensile Modulus @ 2% Permanent Strain: <i>J_{cyclic}</i> MD	ASTM D-7556	lbs/ft (kN/m)	68,500 (1,000)
Cyclic Tensile Modulus @ 2% Permanent Strain: <i>J_{cyclic}</i> XMD	ASTM D-7556	lbs/ft (kN/m)	76,500 (1,116)
Interaction Coefficient ³	ASTM D-6706	--	0.9
Permittivity Under Load ⁴	ASTM D-5493	sec ⁻¹	0.5
Water Flow Rate Under Load ⁴	ASTM D-5493	gal/min/sf (l/min/sm)	35 (1,426)
Pore Size O ₉₅	ASTM D-6767	microns	496
Pore Size O ₈₅	ASTM D-6767	microns	448
Pore Size O ₆₀	ASTM D-6767	microns	361
Pore Size O ₅₀	ASTM D-6767	microns	324
Grab Tensile ²	ASTM D-4632	lbs (kN)	510 (2.27) x 350 (1.56)
Grab Elongation ²	ASTM D-4632	%	12 x 8
CBR Puncture ²	ASTM D-6241	lbs (kN)	1,800 (8.01)
Permittivity ^{2,6}	ASTM D-4491	sec ⁻¹	0.9
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 average⁶At the time of manufacturing. Handling, storage, and shipping may change these properties



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