



■ Carthage 4%HD™

Carthage 4%HD is a woven filtration geotextile made of high-tenacity, monofilament polypropylene yarns which are woven into a stable network such that they retain their relative position. Carthage 4%HD is part of the [Carthage % Open Area Series](#) of woven monofilament filtration geotextiles, is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

AASHTO M 288: Carthage 4%HD exceeds the geotextile requirements for Subsurface Drainage/ Classes 2 & 3 (Woven: Percent 'in-situ' soil passing 0.075 mm = <15%) and Permanent Erosion Control /Classes 1 & 2 (Woven: Percent 'in-situ' soil passing 0.075 mm = <15%).

PROPERTY	TEST METHOD	DATA	
		METRIC	ENGLISH
<input type="checkbox"/> Mechanical			
Grab Tensile Strength	ASTM D 4632	1.78 x 1.402 kN	400 x 315 lbs
Grab Tensile Elongation		15%	
Trapezoidal Tear	ASTM D 4533	0.67 x 0.73 kN	150 x 165 lbs
CBR Puncture	ASTM D 6241	5.12 kN	1150 lbs
<input type="checkbox"/> Endurance			
UV Resistance	ASTM D 4355	90% @ 500 hrs	
<input type="checkbox"/> Hydraulics / Filtration			
Permittivity ⁽¹⁾	ASTM D 4491	0.90 sec ⁻¹	
Water Flow Rate ⁽¹⁾		2851 lpm/m ²	70 gpm/ft ²
Percent Open Area	CW-02215	1-4%	
Apparent Opening Size (AOS) ^{(1) (2)}	ASTM D 4751	0.425 mm	40 US Std. Sieve
<input type="checkbox"/> Physical			
Standard Roll Sizes / Packaging / Weight (Custom fabrication and packaging are available.)	Measured (Typical)	4.57m x 91.44 m 418 m ² 131.5 kg	15.0 ft x 300 ft 500 yd ² 290 lbs

NOTES: Mullen Burst Strength ASTM D 3786 is no longer recognized by ASTM D35 on Geosynthetics. Puncture Strength ASTM D 4833 is not recognized by AASHTO M 288 and has been replaced with CBR Puncture ASTM D 6241.

⁽¹⁾ At the time of manufacturing. Handling, storage and shipping may change these properties.

⁽²⁾ AOS, typically referred to as a MARV, is actually reported as a MAXIMUM allowable opening when in English US Sieve units; or as the SMALLEST allowable opening when in Metric units (mm).

- Unless otherwise stated, all values stated here are Minimum Average Roll Values (MARV).
- The properties reported above are effective 01-01-2024 and are subject to change without notice.

» [AASHTO M 288: Geotextile Product Selection Guide](#)

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