



# Drainage / Filtration / Separation

## ■ Nonwoven “HS” Series of Geotextiles

The FX®-HS Series of nonwoven geotextiles – often times considered ‘multipurpose’ – offers solutions for many drainage, erosion control and filtration applications. The ‘HS’ Series is constructed of 100% polypropylene staple filaments that have been needlepunched and heat set. Weights can be produced from 3 to 30 ounces per square yard.



Subsurface Drainage



Erosion Control



Separation

- **FX®-30HS THRU FX®-45HS** – These lightweight fabrics are typically used in underdrain systems to prevent soils from entering the drainage system. They can also be used as a separator under pavers and driveways.
- **FX®-60HS THRU FX®-80HS** – These medium weight fabrics are typically used under riprap to limit the loss of fines in slope and *non-critical* shoreline applications, or when site specific soil samples reveal well-graded particle conditions. They can also be used as separators under parking lots and roadways.
- **FX®-100HS THRU FX®-160HS** – These heavy weight fabrics are typically used as separators under roadways and railroad ballast, under shoreline riprap in *non-critical* applications, and as protective cushions under impermeable liners.

(Partial Listing)

PROPERTY	ASTM METHOD	UNITS	FX®-30HS	FX®-35HS	FX®-40HS	FX®-60HS	FX®-70HS	FX®-80HS	FX®-100HS
<input type="checkbox"/> <b>Mechanical</b>									
Grab Tensile	D 4632	lbs	80	90	105	160	180	205	250
Grab Tensile Elongation		%	50%	50%	50%	50%	50%	50%	50%
Mullen Burst	D 3786	psi	130	185	210	280	330	350	460
Puncture	D 4833	lbs	30	55	65	85	100	110	150
CBR Puncture	D 6241	lbs	210	260	300	400	460	525	625
Trapezoidal Tear	D 4533	lbs	25	40	45	60	75	80	100
<input type="checkbox"/> <b>Endurance</b>									
UV Resistance	D 4355	%	70%	70%	70%	70%	70%	70%	70%
<input type="checkbox"/> <b>Hydraulics/Filtration</b>									
Apparent Opening Size	D 4751	US Sieve	50	50	70	70	70	80	100
Percent Open Area	CW02215 <sup>1</sup>	%	0%	0%	0%	0%	0%	0%	0%
Permittivity	D 4491	sec <sup>-1</sup>	2.00	2.00	2.00	1.30	1.50	1.40	1.20
Flow Rate		gpm/ft <sup>2</sup>	150	150	140	120	100	90	80
<input type="checkbox"/> <b>Physical</b>									
Mass Per Unit Area	D 5261	oz/yd <sup>2</sup>	3.0	3.5	4.0	6.0	7.0	8.0	10.0

<sup>1</sup> This is not an ASTM test but rather a USACOE document that describes the test.

Please see papers entitled *Why Percent Open Area?* and *Independent Research on Fabric Clogging* included with our information package.

The properties reported above are effective 02/01/09 and are subject to change without notice.

Distributed By:

## Carthage Mills

4243 Hunt Road  
Cincinnati, OH 45242  
www.carthagemills.com

513-794-1600 TELEPHONE  
800-543-4430 TOLL FREE  
513-794-3434 FACSIMILE



Since 1958: America's *First* Geotextile Company

Seller makes no warranty, expressed or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specification stated herein. Any implied warranty of fitness for a particular purpose is expressly excluded, and, to the extent that it is contrary to the foregoing sentence, any implied warranty of merchantability is expressly excluded. Any recommendations made by seller concerning the uses or applications of said product are believed reliable and seller makes no warranty of results to be obtained. If the product does not meet Carthage Mills current published specifications, and the customer gives notice to Carthage Mills before installing the product, then Carthage Mills will replace the product without charge or refund the purchase price.

# Carthage Mills