Geotextile Fabrics

Geotextile fabrics were first developed in 1958 by Carthage Mills, and until 1967 had the only geotextiles available on the market. They were the first, and are the most commonly used geosynthetic today. They provide cost-effective solutions to meet specific site requirements for geotechnical and hydraulic applications requiring Separation, Reinforcement, Filtration, Drainage, Cushioning and/or Protection.

Woven Geotextiles consist of individual yarns that are then woven on conventional textile weaving machinery using a wide variety of weaving patterns. They feature predictable openings, higher ultimate tensile strengths, and low elongation (high-modulus).

Nonwoven Geotextiles consist of either continuous filament or short staple fibers that are bonded together by various processes that can include both needling and heat processes. They have a random fiber orientation with indirect openings, and a thickness ranging from thick felt to a relatively thin fabric. They feature high permeability and water flow with a typically tight AOS (50-120), and high elongation (low modulus).

Whether you have a rigid specification to be met, or need a simple solution to a common application, Carthage Mills can deliver... THE PRODUCTS YOU NEED WITH SUPPORT THAT MAKES A DIFFERENCE!

Nonwoven Geotextile Fabrics

Carthage Mills' FX®-HS Series (Civil)

Carthage Mills' FX®-HS Series of nonwoven geotextiles are among the most commonly used nonwovens today, and provide immediate and cost-effective solutions for many Separation, Drainage, Protection and Filtration applications.

Specific Applications Include: Subsurface Drainage Systems; Under Riprap/Hard Armor in Erosion Control; Separation under Streets, Railways, Roadways and Pavers; Swales; Filtration/Drainage in SRW and Landfill Applications; Under Athletic Fields

FX®-HSE Series (Environmental)

Carthage Mills' FX®-HSE Series of nonwoven geotextiles are specially designed for a wide variety of applications in the environmental market. They offer immediate and cost-effective solutions for many of the unique challenges of Filtration, Separation, Drainage and Liner Protection found in this specialized market.

Specific Applications Include: Landfill/Waste Collection Drainage and Filtration Systems; Geomembrane Protection; Gas Collection and Venting Systems; Liquid and/or Gas Pressure Relief Systems

FX®-A/O Series of Asphalt Overlay Fabrics

Carthage FX®-A/O nonwoven polypropylene Asphalt Overlay fabrics are specially needle-punched and heat-set for strength, durability and asphalt retention to provide an economic solution to extending the useful life of pavement overlays up to 50%. They are ideal for Pavement Restoration, Sealing, Stress Relief and Asphalt Adhesive Bonding.

Specific Applications Include: Parking Lots; Highways; Streets; Airports; Bridges; Basketball Courts; Tennis Courts
Carthage \%™ Monofilament geotextiles feature effective levels of Percent Open Area (POA), unique to woven monofilaments, and essential for predicting its resistance to clogging. POA is the single most important property to consider when hydraulic gradients are medium to high, internal migration of fines may occur, and ‘Long-Term’ Filtration is critical in Drainage, Separation and Erosion Control applications.

Specific Applications Include: Bulkheads; Subsurface Drainage Systems; Under Riprap or Concrete Revetment Systems for Channel, Shoreline and Waterway Protection; Swales; Land Reclamation; Drainage/Filtration/Collection Systems in Landfills

FX® Slit-Film Series

Carthage FX® Slit-film Series of geotextiles provides immediate and cost-effective solutions for everyday Separation and Stabilization applications and are among the most frequently used geotextiles in the industry.

Specific Applications Include: Parking Lots; Driveways; Streets; Railways; Roadways; Storage and Staging Areas; Board Roads; Construction Site Access/Haul Roads

FX® High-Performance Series (PP)

Carthage FX® High-Performance Series of polypropylene (PP) geotextiles deliver higher strengths and long-term performance than typical woven slit-film geotextiles. They are ideal for applications that require Separation, Stabilization, Filtration, Containment, and moderate to severe Reinforcement.

Specific Applications Include: MSE Walls (Temporary and Permanent); Base Reinforcement; Land Reclamation; Landfill Capping/Closures; Reinforced Slopes; Roadway/Railway Construction; Dikes and Embankments on Soft Foundations; Voids Bridging; Airport Runways

FX® High-Strength Series (PET)

Carthage FX® High-Strength polyester (PET) geotextiles were developed for the most demanding applications of Reinforcement and Confinement that require higher long-term design strengths (LTDS).

Specific Applications Include: Embankments on Soft Soils; Voids-bridging; Waste Lagoon Closures; MSE Structures; and Reinforcement Applications that require Creep Resistance, High Tensile and Long-Term Design Strengths (LTDS)

Technical Note

There are nine types of woven and nonwoven geotextiles listed above with a wide range of mechanical, physical and hydraulic properties. Because not all geotextiles can do all things (i.e. Long-term filtration, Separation, Reinforcement etc.), selecting the best geotextile for a specific application or interpreting a lengthy specification can be confusing. We encourage you to call us at (800) 543-4430 and let us help you through this process.
A joint committee, formed from the American Association of State Highway and Transportation Officials (AASHTO) and the Industrial Fabrics Association (IFAI), developed a general platform to standardize geotextiles for general transportation applications. The current revision for this standard is AASHTO: M288-15.

AASHTO: M288-15 is NOT a design guideline. The selection criteria are based on an engineer’s knowledge of the site-specific installation stresses and soil hydraulic properties for the project application. Please visit our website for a listing of the appropriate Carthage Mills products per application specified. For further information on Carthage Mills and AASHTO: M288-15 contact your local Carthage Mills Representative or call (800) 543-4430. To order a copy of the complete AASHTO: M288-15 Specification, contact AASHTO at (202) 624-5800.

Carthage Mills offers in-house Factory Seaming of geotextiles to Custom Wide Widths x Lengths to meet the most stringent of specifications. We have been providing custom sewn panels for over 50 years!

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